

# Appendix F

## Response to Comment Letters submitted to RCD on the Soquel Creek Watershed Assessment and Enhancement Project Plan (formerly known as: Soquel Creek Watershed Assessment and Enhancement Plan)

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## Summary of Comments and Responses Related to the Content of the “Soquel Creek Watershed Assessment and Enhancement Project Plan”

Generalized comments are presented in bold, followed by bulleted response(s) to the comment. Following the summary are verbatim comments from individuals, with responses shown as underlined. Some material was not included that was not appropriate for public distribution due to its potentially slanderous nature. In some cases job titles were substituted for personal names of individuals involved in the preparation of the Assessment.

### General Comments

- 1. The title of the document (originally “Soquel Creek Watershed Assessment and Enhancement Plan”) is somewhat misleading and implies that it is a full watershed management plan addressing all watershed issues and presenting a full plan for management and enhancement of the watershed.**
  - We concur that the scope of the effort was not designed to be as broad as the original title implies, and have renamed the document, “Soquel Creek Watershed Assessment and Enhancement Project Plan”. The document can be briefly referred to as “the Assessment”. Similarly the section of the document, “Action Plan”, has been renamed to “Enhancement Projects”.

- 2. The relationship between the consultants' reports and the Assessment is unclear or inconsistent with regard to organization, designation of reaches, and recommendations.**
  - Consultants were allowed to conduct their work in their normal working direction. They came together during the synthesis portion to generate one document using an agreed upon resource unit nomenclature (FIGURE 2: Watershed Resource Units).
  - The synthesis process was a consensus process on projects drawing from each discipline. The stand-alone consultant reports are not a consensus report, the Assessment is. During the synthesis process each consultant presented their recommendations. They were debated and a conclusion was arrived.
- 3. How were the conclusions synthesized (or represented) into the assessment recommendations and by whom?**
  - There were a series of working synthesizes meetings with consultants, representatives from County Planning, funding agencies, RCD staff and board members. Each consultant submitted their recommended project list, each recommendation was discussed, agreement reached, classified and prioritized as to their urgency. The result is the Recommended Project List found on pg. 46 of the Assessment. This is "The heart" of the enhancement recommendations for improving the fish habitat in Soquel. The Recommended Project list is the "How to" improved the fish habitat in Soquel.
- 4. The Watershed Assessment did not adequately address many issues in the lower lagoon area.**
  - The District strongly supports the Draft Soquel Creek Lagoon Enhancement Plan that the City of Capitola has been developing. The Assessment that the RCD has developed was not intended to address the lagoon. The Coastal Conservancy and the Department of Fish and Game did not want to fund two Assessment and Enhancement Plans that overlapped. Therefore, it was very important to draw a boundary between the two efforts. The two efforts are complimentary and both are critical to the overall success for Soquel Creek.
- 5. The Assessment is very comprehensive, complete with great recommendations, excellent tables and matrices, and good watershed maps.**

## **Land Use**

- 6. The Assessment does not adequately identify and discuss impacts of specific land uses.**
  - The Assessment includes general discussion of land use, but this project was not intended to provide an analysis of impacts relative to specific land uses, but to provide an assessment of stream conditions and identify projects to enhance those conditions for fish. We will add a table summarizing land use, and a map of land use in the watershed. While the summary of current land use is of interest, it would not have much effect on the recommended projects.
  - The report includes generalized discussion of historic land use and current land use, but it was not intended to include a quantitative analysis of specific land use impacts. The report is intended to address practices, such as erosion control, clearing, road maintenance, water use, etc, that may be associated with a variety of land uses.
- 7. The Assessment cites the significant impacts of logging prior to the 1940's, but does not recognize that logging techniques have greatly improved and are now some of the most protective in the world. Additionally the amount of logging that currently takes place annually is relatively minor. Since 1993, the average acreage logged per**

**year has amounted to only about 1% of the Soquel Watershed, with much lower amounts in the past three years.**

- Comments are acknowledged. Although the geomorphologist evaluated historic land uses because they had such significant impacts, the assessment was not intended to provide an analysis of specific land uses as they now occur in the watershed.

## **Sediment Sources and Geomorphology**

**8. Even though large natural events of sediment input may occur, isn't it true that smaller sediment inputs from human activities during years with more moderate rainfall can have significant impacts on the proportion of fine sediment in the streambed?**

- Yes, there is a statement on P. 30 that "Chronic sources of sediment are active between large events and are problematic in the Soquel Creek Watershed". This will be included under findings and elaborated upon.

**9. Sources of human-induced sediment have not been adequately quantified.**

- A more extensive assessment of sediment sources would be desirable, but that is difficult and beyond the scope of this project. Other reports, such as San Lorenzo Watershed Plan Update, have had to rely on extrapolation and assumptions in trying to quantify sediment sources. The bottom line for the Soquel effort and for the more extensive efforts is that we need to work to reduce human-induced sources of sediment where we can.

**10. The current impacts of sediment from logging were not described.**

- The Assessment was not intended to provide an evaluation of specific land uses. Rural roads (serving both rural development and timberland) have been identified in the Soquel Assessment as well as other Santa Cruz County watershed plans as probably the most significant sources of human-induced sediment.

**11. The "Highland Way Landslide," which occurred in January of 1997, had an enormous impact on fish habitat for at least two years. This slide came down after a very wet December and January and deposited an estimated 30,000 to 50,000 cubic yards of material into Soquel Creek until the road was reopened in the fall of 1999. (Most of this material entered the creek during the first two winters.) The impact was particularly acute because after the slide came down, it virtually stopped raining for the season. The creek ran brown for several weeks and there were no more significant storms in 1997 to flush the sediment through the system. The creek bed in the East Branch was coated with sediment. We observed significant filling of most pools as a result of this slide and some pools have yet to recover. The pulse of sediment from this slide is still working its way through the watershed. I believe that the impact of this huge landslide should be described in more detail in the Assessment for a complete documentation of the watershed condition and fluvial process.**

- The Assessment does discuss this slide in particular, and acknowledges that large landslides are the greatest sources of sediment to the stream system.

**12. The big storm events of the El Nino winter of 1997-98 did not impact the Soquel Creek watershed as severely as they did watersheds to the north in San Mateo County or to the south in Monterey County. While the annual rainfall was above average and the flow rates were high and sustained, the storm events did not cause as much damage as the storms in the winters of 1994-95 and 1996-97. Riparian vegetation within the stream banks was lost in 1998, but the Soquel Creek watershed largely escaped the kind of storm damaged which occurred in other watersheds to the north and south where roads and bridges washed out in several locations and people's lives were disrupted for weeks or months.**

- Comment noted.

**13. When "Highland Way Slide" of January 1997 occurred, massive amounts of sediment entered the creek for months and resumed again the following winter. There was no attempt to mitigate or control the erosion. With quick action, thousands of cubic yards of material could have been kept out of Soquel Creek. However, no agency or group would take responsibility for the problem despite repeated efforts. This represents a failure of the system and I am wondering if something could be done to address this situation in the future. I am suggesting some creative problem solving to come up with a process to deal with major future landslides or other events so that this kind of inaction doesn't happen again.**

- The geomorphologist has indicated that the feasibility of controlling landslides and similar sediment sources in the rift zone is limited due to technical and economic concerns.

**14. What is the significance of lower suspended and bedload sediment transport in 2002 compared to 1990 and 1993? What significance is the D-50 grain size of surficial sediment? Is the range good or bad? What relevance do these have to the assessment?**

- Information on bedload suggests that bedload transport and possibly total sediment transport is declining. This would be consistent with the reduced amount of bed aggradation, but more data is probably needed before a conclusion could be confirmed that sediment loads are lower on a long-term basis.
- Bed material size is elaborated on page 15, which indicates that grain size on Lower Soquel Creek is similar to Zayante Creek, which experiences chronic sedimentation, indicating a need to address chronic sedimentation on Soquel Creek.

## **Streamflow and Hydrology**

**15. Redwood forest biomass has probably doubled since the 1950's, which likely contributes to declining baseflows as a result of more water removed by evapotranspiration.**

- This is an important point that should be noted as one of the potential contributing factors to long term declines in baseflow, along with many others, some of which we may have some control over.

**16. The executive summary states that low summer baseflow is a limiting factor. Where are the major water diversions on the creek? A map of these appears basic to any complete assessment.**

- Diversions were not located or mapped as a part of this assessment. Diminished baseflow is a function of the cumulative effects of surface diversions, groundwater pumping, riparian evapotranspiration and channel aggradation. The Assessment does not focus on specific properties or land uses.

## **Riparian Vegetation and Woody Debris**

**17. It should be made clear that the scattered riparian clearing mentioned in the Assessment is not related to current logging practices, which require maintaining 85% canopy.**

- The document does refer to clearing by streamside residents, and most of the clearing identified in the transects is downstream of the timberland. A specific analysis of clearing by land use type was not intended to be done.

- 18. The Assessment should include maps of specific locations where clearing is occurring, where revegetation is needed and where action needs to be taken stop clearing. Effective means of intervention must include/address land use, at least to the extent that riparian concerns are addressed.**
- This project seeks to address these issues through education, outreach and vegetation restoration. Other approaches are beyond the scope of this effort. This is not a landuse report, management plan, or regulatory document. Property owner's rights are to be respected and identities protected
  - Many of the projects for revegetation contained in the Assessment cite specific transect locations that should be addressed.
- 19. The Assessment should include discussion of the dynamic nature of riparian vegetation and how alders and willows are washed out every two to five years and rapidly grow back. This is important to understand the constantly changing nature of the streambed and banks as a consequence of high storm flows. It would be helpful to describe the occurrence of alder age classes (50 and 20 years, respectively) throughout the watershed that date back to the two major disturbances of 1955 and 1982.**
- The loss of riparian vegetation in the storms of 1955 and 1982 is indicated in the footnote on p. 23. Natural regrowth is discussed elsewhere.
  - This issue is further discussed on pages 35-36 of the Riparian Vegetation Assessment (Appendix E) and pages 30-32 of the Geomorphology/Hydrology Assessment (Appendix D)..
- 20. With regard to invasive species, The presence of broom, vinca and ivy in the stream channel should be mentioned. They have spread rapidly in recent years and their distribution is only going to get much worse. They are also wide-spread in the East Branch, even though the Assessment indicates nonnative presence there as "low."**
- Comment noted, discussion will be modified.
- 21. The Assessment should discuss the impacts of excessive forest cover along streams which can reduce growth of aquatic vegetation and understory riparian vegetation that may have more habitat value for the stream in terms of nutrient and food production and cover for fish.**
- This is an interesting concern that is probably beyond the scope of the present assessment. There is a tendency to manage for "natural" conditions, and if those conditions result in shading, than that is the way it is. However, the dense growth of some second growth forests is not natural. This is an issue that should be considered under future work.
- 22. The discussion of canopy closure does not include the Rift Zone of the upper East Branch. Unfortunately, this area was not covered in the assessment. Canopy cover in this area is lacking for a great distance (up to one mile) as a result of landslides. This is important to mention.**
- We could indicate the condition as "reported", but we are reluctant to make changes in technical findings without confirmation by consultants.
- 23. The impact of clearing of large woody material in the name of flood control may represent one of the most significant impacts to fish habitat in Soquel Creek. The Assessment could briefly summarize the inherent conflict between flood control and fish habitat needs and describe the important role that large woody material plays in the ecosystem from the headwaters to the ocean. This discussion could include the need to size culverts and bridges large enough to pass woody material. This explanation would support several of the recommended projects.**
- This issue is acknowledged and addressed several places in the Assessment document. More work in the future is needed to better resolve these conflicts..

## Fisheries

**24. Why is there no summary of trends in fish densities through the years of fish sampling done for the Soquel Creek Water District? These data should be the basis for assessment of limiting factors. These data provide the baseline for future enhancement efforts and evidence of success. As it stands, there is a big hole in the Fisheries assessment.**

- The Department of Fish and Game places an emphasis on assessment of fish habitat conditions, which are less susceptible than estimates of fish populations to random variation and influence of other factors unrelated to the condition of the watershed. DFG also believes that fish population estimates should be based on statistically rigorous random sampling methods, which have not been funded in this area. For information on Soquel Creek fish population trends, the reader should consult a companion document: "Soquel Creek Salmonid Assessment and Enhancement Plan, 2003, prepared by D.W. Alley & Associates for the Santa Cruz County Environmental Planning Department. The fisheries biologist did utilize his knowledge of population trends in assessing limiting factors.

**25. How will the future project effectiveness in salmonid restoration be assessed or measured without baseline data?**

- Department of Fish and Game focuses on habitat conditions rather than actual populations in promoting enhancement projects. Additionally, the Assessment recommends ongoing fish population monitoring (recommendation 70).

**26. The Assessment should recognize significant impacts on fish production from predation by birds and marine mammals, and other impacts in the lagoon.**

- Lagoon management is addressed in the Capitola Lagoon Enhancement Plan and other efforts. The issue of predation by marine mammals is a much larger issue that is still being evaluated by state and federal agencies. Increasing watershed production of fish will have benefits, regardless of predation and other ocean issues.

**27. Should restoring Coho habitat be a goal of the Enhancement program when it is not known whether Coho naturally inhabited Soquel Creek?**

- This is a complex issue that requires further study and evaluation well beyond the scope of the current effort. The goal, recognizes the issues of whether Soquel Creek can support natural runs of coho salmon: "restore Coho habitat where feasible", emphasis on the potential. Soquel Creek is at the southern limit of the range, and they may or may not be there at different periods, under different climatic conditions.

## Recommendations

**28. Why are there no enhancement targets and goals specified? The original San Lorenzo River Watershed Management Plan and the current San Lorenzo River Enhancement Plan have environmental targets related to fish habitat. The CDFG Draft coho recovery plan had recovery goals for coho densities. Why are there no enhancement goals for water temperature, riparian tree canopy closure, streambed embeddedness, spawning gravel quality, juvenile salmonid densities in the respective resource units? How will you know when you have succeeded in adequately enhancing the watershed?**

- The Soquel Assessment is not a Management Plan like the San Lorenzo Watershed Plan. Much more data developed over the years is available for the San Lorenzo. The Soquel Assessment is essentially a list of recommended enhancement projects. Targets and measuring mechanisms will be generated for each restoration project. Overall

watershed fishery habitat improvements will be assessed with the implementation of the monitoring component recommended in the Assessment (pg. 45). RCD has been awarded funding for development of the watershed monitoring program in Soquel watershed to pursue this further.

**29. There is some disagreement with the prioritization of the projects in the Assessment. Salmonid restoration would be much better served by placing revegetation and woody debris enhancement as priority one. Landslide, sedimentation, and erosion control should be at least priority two. Little will be gained, in relation to costs, by acquisition of conservation easements and land. Those businesses which have the largest impact on the creek, timber companies, nurseries, and the quarry, would have to go out of business to grant the conservation easements required. There are challenges involved to ensure proper management under public ownership, and many private owners desire to manage their land in a protective way. Education and cooperation are the best enhancement techniques which can be hoped for with these businesses.**

- The priority of these classes of recommendations varies in the different reaches. In some reaches revegetation is a priority one, while in others it was not felt to be as important by the steering committee. In the judgment of the geomorphologist, landslide control would be extremely expensive with limited likelihood of success, which resulted in a lower priority. A wide range of commenters have suggested reducing the priority of easement acquisition. The priority will be reduced, but keep in mind that there are some funding sources that are strictly devoted to such acquisition projects, which can have value in the appropriate circumstances.

**30. Why are there not some general watershed recommendations related to good care-taking and habitat protection? These recommendations would provide a basis for recommended projects. Many of the general watershed recommendations in the San Lorenzo Plan are relevant here and should be included.**

- The Plan does include general recommendations. On page 58, Resource Unit 8 refers to Watershed Wide recommendations. Some additional watershed wide recommendations will also be added. But it must be kept in mind that the current San Lorenzo River Enhancement Plan differs from the Soquel Watershed Assessment in three significant ways; 1) Santa Cruz County, which is a regulatory agency, produced the San Lorenzo River Enhancement Plan. 2) The San Lorenzo River Enhancement Plan is a management Plan with regulatory powers to implement the Plan. 3) Considerably more high quality data has been generated over the years on San Lorenzo regarding fisheries, habitat conditions and sources of sediment. The Soquel Watershed Assessment was produced by Santa Cruz County RCD, a non-regulatory agency without power to implement. The Soquel Watershed Assessment is dependent on voluntary participation by landowners in the watershed willing to implement restoration projects identified in the Assessment. It is vital to the success of this Assessment that community members take an active role in watershed stewardship, education, and outreach. Santa Cruz County intends to build on the Soquel Watershed Assessment to generate a watershed management plan for Soquel modeled after the San Lorenzo River Enhancement Plan. Recommendations found in the current San Lorenzo River Enhancement Plan would be evaluated by professional Hydrologists, Geomorphologists and fish biologists for inclusion in the Santa Cruz County Management Plan for Soquel.

**31. Reduction of sediment through the use of BMPs and drainage practices on unpaved roads should be included in each of the reaches listed with the exception of the lagoon. There are unpaved roads throughout the watershed including the mainstem, Moores Gulch, Bates Creek and all parts of the East and West branches. Recommendations for erosion control along county roads from the Pacific Watershed Study should also be included.**

- These are good points will be addressed in the revision.

- 32. Projects for removal or modification of fish barriers should take into account the aesthetic impact, disruption of natural features, and degree of benefit. It may not be appropriate to “fix” all impediments.**
- The issues are important and will need to be addressed as specific projects are developed.
- 33. The recommended projects are overly expensive and the effort should focus more on providing a do-it-yourself guide to enhancement for property owners.**
- This is intended to be done to some extent through the education and outreach programs, for relatively simple projects. For more complex situations, the expertise of a geomorphologist or other stream expert may be needed to ensure the project doesn't have adverse impacts. Many types of projects require some kind of approval from Fish and Game or other agencies. In a separate effort, the RCD is working on a permit coordination program to obtain approval for a standardized set of projects that can then be implemented by the landowners under the guidance of the RCD.
- 34. The RCD should conduct an opinion survey of landowner stewardship to solicit: individual opinions on surface and ground water usage; concerns/priorities regarding creeks, aquatic species, riparian habitat; willingness to be involved in salmonid populations recovery; and opinion on RCD public outreach (brochures, etc.)**
- We concur that this could be a very valuable outreach and assessment tool, and this will be considered as a part of future efforts.
- 35. Implementation of solutions requires a watershed approach. To organize this broader group, a combined effort is needed by the City of Capitola, volunteer groups (such as the Friends of Soquel Creek, the Coastal Watershed Council, and Save Our Shores), and other government agencies (such as the Santa Cruz County and the Resource Conservation District).**
- There is a need to improve and expand on coordinated efforts. The City of Capitola, Friends of Soquel Creek, the Coastal Watershed Council, County of Santa Cruz Public Works, Santa Cruz County Environmental Health, Santa Cruz County Planning, resource agencies, Soquel Creek Water District and others have participated in the Soquel Creek Assessment and Enhancement Process. The SCCRCD supports your input regarding the need for a teamwork approach with leadership from multiple entities.



# Commenters

## Steve Leinau

Soquel Creek Assessment Plan Critique by Steve Leinau of Friends of Soquel Creek  
July 29, 2003

This document was generated out of the first reading of the “Soquel Creek Watershed Assessment and Enhancement Plan” and its three appendices. The object was to read the appendices and see if the “Action Plan” included in the Assessment document appropriately addressed the appendices. Unfortunately this project was largely derailed by the shocking disorganization of the documents. They are stand-alone documents conducted by three separate consultant firms.

There was no common mapping or location system for the documents, and there was no key through which these different systems were oriented to each other. Consultants were allowed to conduct their work in their normal working direction. They came together during the synthesis portion to generate one document using an agreed upon resource unit nomenclature (FIGURE 2: Watershed Resource Units).

This made the comparison extremely difficult for the layperson (only mildly familiar with the creek). This impediment was extremely serious in terms of document accessibility. The synthesis process was tedious and the Assessment is the outcome of the synthesis work. Comments on the Assessment are what were asked for, not attempting to redo the process of synthesis.

The accessibility issues were exacerbated by the generality of the Assessment (also called the synthesis) and the Hydrology/Geology appendix, and the specificity of the Salmonid and Riparian appendices. Because the levels of specificity were variable and there was no common mapping system, it was extremely difficult to assess whether or not specific issues in the appendices were dealt with in the synthesis document. The synthesis work was an ongoing process amongst the consultants, funders, and staff.

The Hydrology report should be looked at by someone with a better grasp of the science used therein. Two peer hydrologists and Fish and Game staff hydrologist reviewed the Hydrology report.

Because the attempted comparisons took so long, we were unable to complete a comparison of the first (December) drafts of the appendices and the second (May/June) drafts of the appendices. However, from an earlier examination of these documents, we know that much of the information in the appendices was deleted. There was an effort to make the documents readable and to keep information relevant to a particular subject area in one place, i.e. Keep information on sediment production in the geomorphology section. Editing is the purpose of first writing draft reports.

For instance, many references to logging and timber harvest were deleted in all of the reports; the transect-rating system was deleted from the riparian review, etc. This is not a polished list of questions, and often includes repetitions of information, mostly because the same problems came up over and over again.

## FISHERIES

In attempting to compare the Final Draft of the Fisheries Appendix (published in full by the County of Santa Cruz) copies of both are available at four City libraries and the County Planning Department office and the Santa Cruz County RCD. They are two different reports with two different contract funders to the Santa Cruz County RCD for the Soquel Creek Watershed Assessment and Enhancement Plan, the following difficulties arose (note: for some reason I sometimes designated the Fisheries Appendix as the Salmonid Appendix): The organization of the Watershed Assessment and Enhancement Plan does not correspond to the organization of the Salmonid Appendix. Consultants were allowed to conduct their work in their normal working direction. They came together during the synthesis portion to generate one document using an agreed upon resource unit nomenclature (FIGURE 2: Watershed Resource Units).

Recommendations in the Assessment Plan begin in **RU1**, the upper east branch. Recommendations in the Salmonid Appendix begin at the lagoon (the river's mouth) and work upward. The two reports literally start on opposite ends. Watershed assessments follow the direction of flowing water; the start at the headwaters and move downstream. The fishery consultant works from the mouth up. It was agreeable to funders, staff and the other consultants to allow the fisheries biologist to work in his usual direction. The use of Watershed Resource Units was used to blend the reports and be a logical top down direction report.

The above situation is exacerbated by the fact that the two reports have no common means of identifying locations. The fisheries report uses a system of designating location via reaches. Reaches are an arbitrary definition that the consultant finds convenient for fieldwork.

For instance the area from the edge of the lagoon to the grange is designated **reach 1, R1 (pgs. 6-11)**. The watershed enhancement plan designates the entire area from the mouth of the creek to Nob Hill market as resource **unit 7, RU7 (pgs. 44-58)**. The lagoon has a separate "Enhancement Plan" that is being developed for the City of Capitola.

The areas are designated with similar call letters, but are numbered opposite each other. The areas designated as reaches differ vastly from those designated as resource units. Not only are they signified by different names, the landmarks used to designate the areas are different. This makes reading the fisheries document and comparing those findings to the enhancement plan extremely difficult. Why was a common system of location not used in both the enhancement plan and the fisheries appendix? The consultants were allowed to conduct their fieldwork in their usual manor. What is significant is the synthesis of their findings (p. 30-39 Watershed-Wide Findings and Limiting Factors)

Given that the language and means of identifying location were divergent in the two reports, why was a key or map that overlaid the two not provided? A resource unit map was agreed upon (Figure 2: Watershed Resource Units).

How were the Resource Units decided upon? Page 26 explains that resource unit classification were based on the Montgomery and Buffington (1997) channel-reach morphology system.

Why is there no explanation of this system of identification is used in lieu of others in the report? (this may be added <http://www.stream.fs.fed.us/news/streamnt/oct99/oct99a1.htm>)

Why is there no map indicating land use with the resource unit overlay? This project was not intended to provide an analysis of impacts relative to land use, but to provide an assessment of stream conditions and identify projects to enhance those conditions for fish

Without that indication it is difficult to tell what existing land uses there are within a given resource unit, and thus makes linking recommendations or problems to land uses extremely difficult. A generalized land use map would be useful. The County previously generated a land use map (1997) but it is in a large format that could not be readily published in the report. We will add a table of land use by sub-basin. But, again, the project was not designed to analyze specific land use impacts.

Why is the only specific reference to logging the Soquel Demonstration State Forest (particularly given that 1/4 of the watershed is still logged)? Why are the other logging operations (if not named and mapped) at least talked about in general terms and locations given for them? General locations of logging in the watershed are mentioned on pp. 9 and 10 of the Assessment. There is no provision for mapping or locating individual land uses

Increased residential and urban use is cited as having a major impact on the lower reaches (**RU7** and **RU6**) of the river, why is there no specific information (or maps) locating and specifying the impacts? Because it is only talked about in general terms it is extremely difficult to deduce what's being considered in the report. The Soquel Assessment of Watershed Conditions and Identification of Enhancement Projects is not intended to analyze specific land uses

Plans for **RU 7** are missing from the draft (assessment) report – this is the lagoon area. RU 7 is covered in the reference Section “Soquel Lagoon Management Plan Update” (note could be added for clarity in reading)

Fisheries draft report **p. 8** covers this area. Most missing information in the draft is marked by some indication of information to be inserted. **RU7** is just skipped; the document goes from **RU6-RU8** without mentioning it. Mention of RU7 could be added here for clarity in reading

Why are the RU plans not listed in order of their priority? Project list was generated from top down to be consistent with Resource Unit map. The Project list in an Excel document, sorting it is a simple task.

The priority is listed next to the plan, but they are in random order. Sorting the list is no problem.

Also, why is there no indication of where each of the plans came from (fisheries, hydrology, etc) and no indication of why each of the plans is prioritized a particular way? The work was done during synthesis meetings using the consultant appendices reports.

The list of recommendations in the enhancement plan do not specifically reference the recommendations in the appendices, so it is difficult to tell whether or not the problems indicated in the appendices are being well dealt with in the main report. The synthesis process was a consensus process on projects drawing from each discipline. The stand-alone consultant reports are not a consensus report, the Assessment is. During the synthesis process each consultant presented his or her recommendations. They were discussed and a conclusion was arrived.

In addition, where the appendices often call for specific restorations, the report mostly refers to general recommendations, making it difficult to discern what portions of the appendices are being appropriately addressed. Again, each consultant's report is a stand-alone report. It was the synthesis process for the Assessment that took into consideration each discipline and goals of the Enhancement to include in the Assessment.

For example, on Page 10, the assessment calls for “Cooling summer water temperatures through planting and retention of redwoods along the riparian corridor (This is in reference to the East Branch within and upstream of the Soquel Demonstration Forest, which is not on any of the maps in either of the two reports). However, because the enhancement report basically designates the entire upper East Branch as RU-2, it ruins the specificity of these recommendations. That recommendation appears in Don Alley’s recommendations for each reach except the West Branch. It was generalized in the synthesis report

#### HYDROLOGY

**On page 21**, the geology/hydrology report postulates future increases in groundwater pumping in the Upper Watershed. Is this addressed anywhere in the assessment document? Page 10 of the Assessment and Enhancement Report speaks to Future Land Use Considerations, Page 15 discusses Stream Baseflows, Page 20 covers Assessment Methodologies and the primary objective of this assessment, Page 22 discusses baseflows past and present. This is consistent with the objectives of the Assessment to assess current stream conditions.

The report states (p. 25) that there are anthropogenic sediment increases, but there is no way to gauge the exact impacts of man-made increases. On page 21 of the Assessment under General Watershed Findings, first pg discusses the conditions that were caused by both natural processes and human activities. There is no easy way to distinguish the relative magnitudes.

It goes on to talk at length about the natural causes of (excess) sediment; it also repeatedly states that there is no way of mitigating the impact of natural sediment increase (via disasters such as earthquakes, landslides, etc). Given that, it seems as if some modicum of attention should have been thrown onto man-made sediment increases, to which there are likely numerous solutions. (Page 21, first page. discusses the topic of natural and human induced impacts. A more extensive assessment of sediment sources would be desirable, but that is difficult and beyond the scope of this project. Other reports, such as San Lorenzo have had to rely on extrapolation and assumption in trying to quantify sediment sources. The bottom line for the Soquel effort and for the more extensive efforts is that we need to work to reduce human-induced sources of sediment where we can.

The report contains an historic discussion of logging, and a qualitative analysis of its impacts, but there is no discussion of current logging practices, and their impact. This is extremely odd given that logging comprises 1/4 of the land use in the watershed. What is the basis for the statement that logging comprises 25% of the watershed?

The neglect with regard to current logging practices is also illogical given that there is discussion of current uses of what used to be orchards. Why is there no explanation of what has become of the logging enterprises? The report states that there are highly disturbed slope and channel conditions which are the result of harvesting, transporting and milling (in past logging enterprises) and that these practices likely elevated sediment production. However, there is no explanation of whether or not these practices continue to the present or if logging practices have been altered. There is no question that logging persists, so an inclusion of this information seems necessary. The Assessment was not intended to provide an evaluation of specific land uses. Rural roads (serving both rural development and timberland) have been identified in the Soquel Assessment as well as other Santa Cruz County watershed plans as probably the most significant sources of human-induced sediment.

The report contains a discussion of second growth timber harvest in the lower reach of the east branch at Sulphur Springs and its negative impacts on the creek. The report actually states that continued logging around Sulphur Springs could be problematic P. 19

However, the report purports to be general (watershed-scale) in scope, and the assessment map of resource units which organize restoration recommendations does not include Sulphur Springs.

On page 25, the report mentions that most disturbances in the creek are naturally short-term and localized. It states that human action in the watershed threatens to create longer, more generalized erosion increases in the watershed. How is this addressed in the recommendations? There are a number of recommendations that address sediment reduction.

Why was the generalized map from the watershed from the hydrology/geology report used as the Resource Unit map in the enhancement plan? Balance Hydrologics offered to generate the maps for the project as an inkind service.

Why was this one privileged, particularly given its generality? Why was the most general location system used, the system from the report that states that it is not to be used for site-specific interventions. The Assessment is intended to be a generalized assessment. It is not a regulatory document. It is imperative to protect the privacy rights of landowners.

This seems antithetical given the site-specific nature of the recommendations. To make matters worse, this report uses the terms “reach” to designate what the assessment designates as “resource units.” Until the Resource Units were identified consultants were working from the Fishery consultant’s division of Reaches.

“Reach” is used in the fisheries report to designate an entirely different set of locations. Why are there no indications of land use (or at least land use zones) on this map? The consultant was not charged with land use direction. We will request the county to provide a land use map, if possible at a scale suitable for inclusion.

Given the overall indication of the (hydrology/geology) appendix that most naturally occurring hydrologic and geologic problems are catastrophic and beyond control, but the few that aren’t are the product of land use, it seems as if it is impossible or unreasonable not to include this in the report. The consultant was not charged with evaluating specific land uses.

**On page 32** the report states, “From 1956, it is likely that persistent land use and successive, post-years of moderate flood flows are responsible for the lack of improvement in channel conditions by 1965.

Different near-channel land use from the earlier period (primarily orchards) to later period (primarily small-scale agriculture and private residential) could account for rapid improvement.” Why are there no generalized maps that show these differences in land use (and the accompanying improvement or decline) within the reaches? If the above quote is true, land use must have significant impacts on the creek, and should be discussed and the results of that discussion should be included in the recommendations. The report includes generalized discussion of historic land use and current land use, but it was not intended to include a quantitative analysis of specific land use impacts. The report is intended to address practices, such as erosion control, clearing, road maintenance, water use, etc., that may be associated with a variety of land uses.

The report includes record of the canopy cover for reaches 7-3: a decrease in cover is recorded in reach 7, reaches 3-6 have no recorded change in canopy cover. Why are reaches 1-3 not addressed? Consultant did not survey the upper reaches due to budget. Aerials photos were used by consultants to determine that riparian is intact in the upper watershed reaches.

**On page 72**, under the heading “Limitations,” the hydrology assessment states that analysis and information from the report are intended (and generalized) for use on a watershed scale, and that information and interpretations shouldn’t be applied to specific projects or sites. How is this information suitable or useful given that the assessment’s recommendations are mostly site-specific or reach-specific? This appears to be a standard disclaimer by the consultant so that for example someone does not build their house based on general information in this report about flooding or slope stability.

In addition, the report contains no recommendations, only conclusions. See Pages 30-39 of the Assessment. Here is where it identifies Watershed-Wide Findings and Limiting Factors derived by all three technical consultants based on their individual reports that had been finalized after peer review.

How were the conclusions synthesized (or represented) into the assessment recommendations and by whom? There were a series of working synthesizes meetings with consultants, representatives from County Planning, Funders, RCD staff and board members. Each consultant submitted their recommended project list, each recommendation was discussed, agreement reached, classified and prioritized as to their urgency. The result is the Recommended Project List found on pg. 46 of the Assessment. This is “The heart” of the recommended enhancements for improving the fish habitat in Soquel. The Recommended Project list is the “How to” improved the fish habitat in Soquel.

## **RIPARIAN**

**Section 5.2.2** “Potential for Natural Regeneration”: “Where riparian vegetation is removed by streamside residents, it usually is not allowed to regenerate. However, at locations where natural processes remove riparian vegetation, natural regeneration tends to replace the riparian vegetation, and this process is taking place in the riparian forest along Soquel Creek. Planting projects need to be considered only where they would supplement or replace natural recruitment.” How is it possible to know where these locations are? Page 30-39 of the Assessment has identified Riparian conditions in the Resource Units specific projects are listed in Recommended Project List, pg. 46-60 and in Appendix B, Project Summary Matrix. The matrix identifies revegetation projects, many of which are also tied to specific transect locations. The sentence appears to be a general observation and recommendation, rather than a recommendation of specific project locations.

Because the very specific transect system used in this report is omitted in the synthesis document; it would be impossible to take this recommendation into consideration (after reading only the synthesis document). This passage illustrates the need for a more specific mapping system for the recommendations in the synthesis or a key that maps the transects with regard to the resource units. Transect locations were useful to the consultant generating the Riparian assessment and recommendations. The projects come from that work and many of them cite specific transects. Keep in mind that the transects were established to be representative of conditions, and not to identify every area along the creek that might need restoration. Transect locations are shown on page 12 of the Riparian appendix.

**p. 35** “The survival rate for riparian tree seedlings is strongly dependent on substrate texture since fine-textured alluvium that is saturated during late winter flooding provides the flood-derived soil moisture normally necessary for late-summer seedling survival and this determines the rate of water infiltration and drainage from the riparian zone. The texture of the substrate varies from one location to another within a stream corridor, because particles of varying sizes

are sorted and laid down by variations in the stream flow..." It seems as if the synthesis, which in reality is merely an over-simplified highly edited version of the appendices, could have functioned much more usefully by showing the specific intersections of the separate consultants reports. For instance, the above quote from the riparian appendix would have benefited from elaboration drawing from the geology report. Are these types of intersections explored in the synthesis? There was discussion amongst consultants in an effort to integrate the concerns of the various disciplines. This also occurred at several synthesis meetings. (As far as I can tell this is never attempted in the synthesis document)

**p. 37** "When identifying opportunities for planting riparian trees to improve shading and lower water temperatures in Soquel Creek, 'site-specific' should be the rule of the day." This assertion is in diametric opposition to the structure of the hydrology/geology report in which "general" or "watershed-scale" seem to be the rule of the day. Why do the two reports have such widely divergent purposes? Each consultants report is a stand-alone document. The synthesize work was the nexus for generating the Assessment, it was to unite the consultants findings to an agreed upon position.

Why is there no explanation of how recommendations were drawn from documents with such widely divergent purposes? For purposes of generating the Assessment it was most important for consultants to construct an agreed upon list of projects for the enhancement of fish habitat.

How were the general findings of hydrology/geology synthesized and specified, and how were the specific findings of the riparian generalized? Each consultant brought to the table their findings; discussions ensued with regard to the Soquel watershed effort and how each project provides cost/benefits to the fish habitat recovery and protection.

**p. 38** "The highest priorities for invasive exotics removal are two: 1. removal of six strands of Giant Redwood, and 2. killing or removing English Ivy where it is in the canopies of trees." Is this reflected in the synthesis? (As far as I read, not only are these type of specific, but watershed-wide recommendations ignored in the action plan, they aren't included in the synthesis document at all). Non-native plant removal was carried into the synthesis document at both the general and specific level in projects 47, 48, 55 and 65.

**p. 11.** The transect locations for this report are located in reaches. The reaches do not correspond to the ones cited in the synthesis document. Why is there no uniformity in terms of the mapping? The evolution of the Resource Unit nomenclature occurred during the synthesis process, after individual consultant reports were final.

It makes reading and comparing these documents confusing and inhibiting. That is unfortunate but the cost of redoing each report was prohibitive.

In the riparian report, the East Branch and Mainstem are cited as having uneven canopy closure. The West Branch and tributaries are better. Twenty-seven sites (20.6%) of the sites (total) achieved minimum canopy closure or better. The "Executive Summary" of the synthesis document states, "Overall, riparian vegetation is in moderately healthy condition." Do these two statements make sense together? The indications of the riparian report don't necessarily support such a positive statement in the "Executive Summary." The phrase in the executive summary is a direct quote from the conclusions of the riparian consultant (p.29).

The report refers to the East Branch riprap (p. 22). This refers to the extensive area of riprapped bank before the quarry that is obvious from the road, with the location more precisely described on page 28.

There is no explanation of where or what this is.

The riparian report notes that most large-sized redwoods in this area have been logged. However, it does not indicate whether there had been continued logging, attempts at

restoration, or neither (p.22). The cited statement is a general observation of current conditions. Logging does continue in parts of the watershed, with a mixture of natural regeneration from stumps and limited planting in areas that already have redwoods.

**p. 28** Again, “other results and observations” are noted but aren’t terribly useful because there is no mapping of land use making it difficult to tell whether or not these concerns are dealt with or addressed in the synthesis document. These observations were intended to identify the type of issues that need to be dealt with through such recommended measures of public outreach and education. Some impacts will need to be addressed in other ways outside the scope of this project..

**p.29** “Shorter stretches of bank where vegetation has been cleared are located on a significant number of small- and medium-sized parcels. Continuous measurements were beyond the scope of this assessment; cumulatively, however, these small-scale clearings may equal or exceed the extent of the larger clearance areas...” This seems to indicate two things: 1. a more detailed common map for recommendations is necessary; 2. Effective means of intervention must include/address land use, at least to the extent that riparian concerns are addressed. . This project seeks to address these issues through education, outreach and vegetation restoration. Other approaches are beyond the scope of this effort. This is not a landuse report, neither is it a management plan nor a regulatory document. Property owner’s rights are to be respected and identities protected

Just because this document is not meant to regulate land use doesn’t mean that land uses aren’t pertinent and shouldn’t be mentioned. They are mentioned and they are pertinent. This is not the document to take that measure of detail. This is a public document to assist voluntary landowner participation. The County of Santa Cruz intends to develop a more comprehensive management plan for Soquel Creek that will include a land-use analysis. This is particularly important for the General Plan Update.

**p.29** “table of unshaded locations” is considered a high priority concern in this report. However, because the synthesis and action plan lack specificity it is difficult to discern whether or not this concern is being addressed. Many of the projects for revegetation contained in the synthesis report cite specific transect locations that should be addressed. The importance of vegetation recommendations was measured against fish impediments and hydrology issues during the synthesis process. Some were deemed not as urgent as others.

**p.36** The report states that at transect 50 there are dead and dying trees in need of investigation. Is this dealt with in the synthesis or the action plan? (As far as I can tell, it isn’t). It is included in the synthesis as project 12, with related effort in project 11.

#### **Assessment document Round 2**

In the “Executive Summary” under the heading “Major Findings and Summary of Limiting Factors,” there are a few extremely pertinent facts omitted such as water temperature increases, small plots of extremely low-riparian coverage (equal or greater in total area to the large areas), there is no mention of salmonid numbers in the creek over the past 50 years We don’t have figures on change in fish numbers over the past 50 years or specific changes in water temperature. However, we do know that Soquel fish populations have declined, and that temperatures have increased, as indicated on p.1. The Department of Fish and Game was uncomfortable presenting fish population estimates that were not based on statistically rigorous random sampling methods.

What is Strelow Consulting? Strelow Consulting is a technical writer. Her name is Stephanie Strelow. She has twenty years of CEQA review work in the County. She was contract by RCD to write the report based on the synthesis provided to her and the three appendices from the consultants.



(They put together and edited the plan). What is their specialty? Ms. Strelow specializes in environmental documents of all kind.

What authority do they have on this topic? Ms. Strelow is charged with combining and clarifying the work conducted by consultants and to write the report. Her drafts are created from the reports and reviewed by consultants, funders, RCD staff, TAC and PAG members.

What was there process in compiling this assessment plan? All reports, and background information was delivered to Ms. Strelow with direction for writing the Assessment. She was directed to prepare introductory sections, summarize and synthesize consultant reports and findings in areas of hydrology, fish habitat, and riparian resources, and to prepare the Assessment. Consultants were given her work plan instructions, Ms. Strelow did not create any new information. It is the result of the consultants reports combined.

**On page 2**, under “Project Methodology and Participants,” the report states that “The County (or “local agencies”) should work with other agencies and stakeholders to complete a watershed management plan for the Soquel Creek Watershed, which will build on the recommendations of this Assessment and provide for implementation of policies and programs for reduction of sediment load, protection of baseflows, provision of adequate water supply, and protection and enhancement of riparian and aquatic habitat.” This makes almost no sense given the previous statement on Page 1 that “This Plan was developed from an interpretation of the technical assessments and with assistance from technical and policy specialists. Your comment is unclear. We believe development of a more comprehensive watershed plan makes a great deal of sense, particularly given the limitations of the scope of work of the Assessment, many of which you have noted.

However, none of the recommended projects and actions – or reported information, analyses, or interpretation used to identify or justify them – should be used to enforce existing regulations or code, revise existing regulations or code, or to promulgate new regulations or code.” I agree that this last statement makes little sense and that will be modified in the final document..

**pg. 18**, “From the ocean to Soquel Village, the width of the riparian forest seldom extends beyond the top of the bank. Upstream from the village, scattered but significant portions of the riparian vegetation being relatively intact.” The fact that the second sentence makes no grammatical sense, aside, the condition of the riparian forest in Soquel Village is mentioned without any indication of why it doesn’t extend beyond the bank (mainly, due to development). Your comment is noted.

What system of location does the Table on page 26 correspond to? If there is none, why is there no map? The tables that follow the page 26 table have a different mapping system, with no common key, and no introduction or explanation as to how the location systems were generated and why they differ. Table 2 uses the reach designations developed by the fishery biologist. It was felt that the reach descriptions were adequate to describe location. The reach designations used in the remainder of the Assessment are described on Page 26, 28, and 29. As mentioned previously these reach designations were developed after the consultants had finished much of their original work.

The executive summary should mention the significant decline in the number of juvenile salmon counted/estimated to be in the Capitola Lagoon in the Fall of the last 10 years. There are many factors that influence fish numbers in the lagoon that may or may not be related to condition in the watershed. This document was not intended to address lagoon conditions, which are addressed in the separate Lagoon Enhancement Plan.

The report states that “Implementation of recommendations contained in this plan seek cooperative and voluntary participation of property owners and other agencies and organizations.” **(page 44)** How is this possible when the issue of land use has been completely

elided? By soliciting direct landowner contact and community involvement about the Assessment and targeting outreach efforts through media and direct correspondence.

Because there are no indications as to which specific locations are problematic, how can the right property owners be contacted for involvement, based on this report? Community outreach is an ongoing effort. It is believed that word of mouth and direct contact is a constructive venue for reaching landowners who may be interested in initiating restoration projects on their land. Specific reaches are targeted for outreach efforts with regard to riparian restoration.

There is no explanation as to how the recommended project list was amassed and prioritized. Were the projects taken directly from the consultant's recommendations (which were for the most part erased from the individual appendices)? If so, how was the decision made (and by whom) as to which recommendations were included? There were a series of working synthesis meetings with consultants, representatives from County Planning, Funders and RCD staff and board members. Each consultant submitted their recommended project list, each recommendation was discussed, agreement reached, classified and prioritized as to their urgency. The result is the Recommended Project List found on pg. 46 of the Assessment.

How were they prioritized? A rating system was devised by the team of consultants, funders and staff to assist in the ranking of priorities.

Was there some method? The system devised was a 1-5 for habitat improvement and benefit to the fish.

Why is there no explanation of any of the above in the report? We will add a section that describes the basis for the assigned priorities. .

The body of this synthesis is general and (mostly) emphasizes the natural problems with the creek. While there is no question that many of the problems limiting coho and steelhead population are the result of natural causes, it seems as if there should have been a greater emphasis on the man-made problems being generated as these are the problems over which the most influence can be exerted. The Soquel Assessment is intended to assess overall conditions affecting fisheries, including natural conditions. It is critical to have appropriate context for developing enhancement projects. The grantors asked for assessment of watershed conditions and identification of projects that could be funded to improve fish habitat.

The process was fraught with hurdles from the start. Personnel problems, consultant challenges, funder expectations and community mistrust all have contributed to the long and arduous process. RCD staff have attempted to work diligently with all parties to facilitate and deliver a quality Assessment that, with cooperation, can lead to improved fish spawning and rearing throughout the watershed.

RCD's mission is to provide education and information to landowners and assist with technical assistance and permit acquisition and funding for identified restoration projects. To that end RCD has been awarded funding and is working with the Coastal Conservancy and several other agencies and local groups to begin design and permits for highest priority projects in six watersheds in the County.

Thank you for your comments it is evident you have spent a great deal of time reviewing the report and that you care a great deal about the future of the fish in Soquel. We hope to have the opportunity to work with you in a cooperative and productive future.

Katherine Sweet

**Soquel Creek Watershed Assessment  
And Enhancement Plan**

August 24, 2003  
Katherine Sweet  
3989 Glen Haven Road  
Soquel, CA

I am glad to note that other Friends of Soquel Creek have submitted extensive questions about this assessment plan. Major questions remain about the process in which it was created and, most importantly, the question as to whether or not it will do anything towards enhancing and/or restoring native fish populations in the creek. The success of the Soquel Assessment depends on the quantity of voluntary projects landowners are willing to implement. RCD is hopeful for a complete scope of projects to be installed resulting in a significant fishery habitat and water quality improvement throughout the watershed.

I object to the statements made on Page 2 in paragraph four about the Public Advisory Group (PAG). As someone listed as a member of that group, I disagree with almost everything stated about the PAG process. I do not feel that meetings were held at “key points of the project, where information about the assessments and Plan was disseminated and opportunities for public comment were provided.” I know that The PAG was not “instrumental in the development of the outreach and education recommendations,” On PAG meeting date September 25, 2002 , PAG members generated a list of education outreach and stewardship recommendations. The PAG was then sent a questionnaire to request further input regarding education, outreach and stewardship recommendations. There was a second PAG meeting to review the list prior to forwarding it to the technical writer to include in the Assessment. That meeting was held on January 15, 2003. These are included in the Assessment on page 44 and 45.

and did not have any meaningful “participation” or do any meaningful “review of the draft hydrology, fisheries, and vegetation assessments.” The Fisheries, Vegetation and Geomorphology/Hydrology drafts Assessments were circulated to TAC and PAG on December 20, 2002 prior to final drafts for review and comments. The more complete Geomorphology section of the Geomorphology/ Hydrology Assessment draft was circulated to the PAG and TAC on February 6, 2003 for comments. Comments were received and taken into consideration during final drafting. Specifically, the Friends of Soquel Creek Comment Letter was received and a response was sent in early February, 2003.

If this entire paragraph were truthfully rewritten, it would state, “A few meetings were held, little or no information was disseminated to the PAG, and no members of the public participated in any significant way with the final Assessment Plan that was developed.” Comment has been noted.

In addition to a public review process, there was also a prior internal technical review process. In the development of a scientifically based Assessment, a technical review process prior to public release is standard.

The scientific team of consultants, hired to assess the watershed in their professional field of expertise, participated in a peer review process prior to Technical Advisory Committee (TAC) review and Public Advisory Group (PAG) review following TAC review as is standard practice. The role of the TAC is to provide a broader professional, scientific review by local resource professionals of the Assessment as well as the technical reports prior to public release as is standard practice in technical writing.

The role of the PAG is to contribute to public participation components (education, outreach and stewardship), to voice community concerns, and provide comments on the Assessment.

It is unfortunate that you did not feel as a significant participant during the process, the most significant and important part of this whole process is community participation in the implementation phase. The Assessment is an alternative to regulation with long-term stewardship benefits. We hope that we can all work more collaboratively to successfully improve the Soquel Creek Watershed.

With that major complaint, I will add a few comments that I believe have not already been covered by other members of Friends of Soquel Creek.

### **Executive Summary**

Why aren't the enhancement opportunities found in the Fisheries appendix incorporated into the executive summary? They would provide some specificity that is sorely needed. An executive summary is an overview of the Assessment, which is a broad watershed assessment of salmonid habitat including hydrology, vegetation and fisheries components. These enhancement opportunities are found in the fisheries appendices for interested parties.

What are ultra-low backflow's? Do you mean extremely low baseflows? Yes, this will be corrected.

Where is the USGS gage referred to in the findings? On Lower Soquel Creek at Bridge Street

### **Page ii**

It is mentioned that 21% of the sites had 85% canopy closure. Were these sites throughout the watershed? What was the extent of the survey? The extent of diminished canopy is discussed on pages 23-24, and is specifically displayed by transect in Figure V-3, page 15 of the Riparian Assessment.

You say the coho are more sensitive to water temperature. What does that mean? Do you mean warmer water temperature? Yes. Standard fisheries literature for coastal California states that coho are more sensitive to fluctuations in water temperature, and are limited by warm temperatures. Coho prefer cool, shallow pools. The sentence in the document will be modified to insert the word "warmer".

### **Introduction**

#### *Statement of Problem/ Issues*

In the last sentence, shouldn't be inadequate riparian vegetation instead of "adequate" riparian vegetation? Yes

*Figure 1*

Liddell Creek is misspelled. Thank you

*Page 9, Table 1.*

Isn't the tidewater goby strictly a lagoon/estuary fish? How does it exist all the way to Highway 1? The summer lagoon goes only as far as Nob Hill near Peery Park. That may be correct.

*Page 11, Other Soquel Creek Watershed Efforts*

Add the following enhancement and study efforts: These are part of the Lagoon Enhancement Plan developed by the City of Capitola, which is already included.

Soquel Lagoon Interpretive Signs. Numerous biological interpretive signs prepared by D.W. ALLEY & Associates and Design Science and funded by the Coastal Conservancy were placed along the creek, lagoon and beach and at the museum by the City of Capitola as part of their original enhancement plan.

Soquel Lagoon Water Quality Monitoring and Steelhead Censusing. Since 1992, the City of Capitola has annually sampled the fish in the lagoon to obtain a steelhead population estimate as part of their summer lagoon monitoring program. Local volunteer, including Friends of Soquel Creek, have assisted D.W. ALLEY & Associates in the effort.

City of Capitola Watershed and Lagoon Educational Units. As part of the original Soquel Creek Lagoon Management and Enhancement Plan, D.W. ALLEY & Associates prepared educational units for dissemination to local schools on lagoon-related fishes and wildlife, riparian trees, aquatic ecology, water pollution and impacts of logging on aquatic habitat.

*Page 20- Watershed Assessment Findings*

Last line- what are "potential fish passage problem impediments?" Do you mean potential fish passage impediments? Yes

*Page 21-General Watershed Findings*

Geomorphology

The statement is made that disturbed watershed conditions with increased sediment production due to logging as a human activity was relatively small compared to natural rates. On what evidence was this conclusion based? There were huge areas clear-cut prior to the 1955 flood. Was data collected at that time that established that natural activities caused more sediment production than man-made activities? The statement that impacts of historical logging were significant, but smaller than natural rates of sediment production is based on the best professional judgment and experience of the geomorphologist.

A following paragraph indicates that large-scale forest harvesting was a major contributor to channel aggradation in the 1950's.

Even though large natural events of sediment input may occur, isn't true that smaller sediment inputs from human activities during years with more moderate rainfall can have significant impacts on the proportion of fine sediment in the streambed? Doesn't this general emphasis on the major influxes of sediment during large storm events tell

only part of the story? Yes, there is a statement on P. 30 that “Chronic sources of sediment are active between large events and are problematic in the Soquel Creek Watershed”. This will be included under findings and elaborated on.

What is the significance of lower suspended and bedload sediment transport in 2002 compared to 1990 and 1993? What relevance does that have to the assessment? It suggests that bedload transport and possibly total sediment transport is declining. This is also consistent with the reduced amount of bed aggradation.

What significance is the D-50 grain size of surficial sediment? Is the range good or bad? What relevance does it have to the assessment? Bed material size is elaborated on page 15, which indicates that grain size is similar to Zayante Creek, which experiences chronic sedimentation.

#### *Page 23- Riparian vegetation*

What is the “East Branch Mainstem between the East-West Branch Confluence and Moores Gulch?” Don’t you mean the “Mainstem between ....?” Yes.

#### *Page 24-*

The riparian vegetation section refers to “numerous locations where existing riparian vegetation is inadequate” This assessment plan should have a map of these locations. Why aren’t these locations mapped? They are identified where they were encountered in the transects.

As a major destructive exotic, why weren’t locations of Giant Reed mapped?. Four of the six locations are on private property.

#### *Page 25- Fisheries*

In the second paragraph, what does the (only 3.5 miles) mean after the words, “East Branch.” Should this say (the lower 3.5 miles only)? That should read “(only 3.5 per mile)” as indicated on p. 30 of the Fishery Appendix.

What was the range in survival rate in spawning glides from egg to fry emergence? What was limiting survival rate of eggs in spawning glides? Did survival decrease with increased fine sediment being present? Range was 27%-61%. The estimate of fry emergence is calculated based on the percent of sand, so as sand increases, estimated percent survival declines(p. 26 of Fishery Appendix).

According to the fisheries appendix, the natural feature creating the ultimate passage impediment on Hinckley Creek was a bedrock falls, not wood clusters. The third paragraph here is in error. This will be corrected

According to the fisheries appendix, the statement that “much wood in the channel was greater than 2 feet in diameter” should be revised to say “a high proportion of the wood in the channel was greater than 2 feet in diameter”. This will be corrected

According to the fisheries appendix, it is primarily in the lower mainstem downstream of Moores Gulch that water temperature limits juvenile steelhead use of slower habitat. Shouldn’t this be specified in the finding on Page 26, last fisheries bullet? Steelhead are not limited by water temperature in the entire lower watershed. Downstream of Moore’s Gulch comprises the majority of the lower watershed.

Where were locations of streambank erosion? The executive summary states that there was an inventory done but I have not been able to locate that inventory. It is contained in the Fishery Appendix,; p 25 and Appendix F.

The executive summary states that low summer baseflow is a limiting factor. Where are the major water diversions on the creek? A map of these appears basic to any complete assessment. Diversions were not located or mapped as a part of this assessment. Diminished baseflow is a function of the cumulative effects of surface diversions, groundwater pumping, riparian evapotranspiration and channel aggradation.

#### *Page 26 - Summary*

This should read that coho are more sensitive to warmer water temperatures. Yes.

#### *Appendix C. Fisheries Assessment*

Why is there no summary of trends in fish densities through the years of fish sampling done for the Soquel Creek Water District? These data should be the basis for assessment of limiting factors. These data provide the baseline for future enhancement efforts and evidence of success. Where is the proof that specific resource units within the watershed need enhancement? As it stands, there is a big hole in the Fisheries assessment.

The Department of Fish and Game places an emphasis on assessment of fish habitat conditions, which are less susceptible than estimates of fish populations to random variation and influence of other factors unrelated to the condition of the watershed. DFG also believes that fish population estimates should be based on statistically rigorous random sampling methods, which have not been funded in this area. For information on Soquel Creek fish population trends, the reader should consult a companion document: "Soquel Creek Salmonid Assessment and Enhancement Plan, 2003", prepared by D.W. Alley & Associates for the Santa Cruz County Resource Conservation District under contract with the Planning Department.

# Ned and Kay Spencer

August 22, 2003

## COMMENTS ON THE SOQUEL CREEK ASSESSMENT AND ENHANCEMENT PLAN

by Ned and Kay Spencer

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## INTRODUCTION

Although Friends of Soquel Creek is not alone in finding the entire process of development of the Soquel Creek Assessment and Enhancement Plan extremely problematic, we welcome the opportunity to have our comments become part of the Plan. We hope that our review will be used to create a better document, and hence, a better future for our creek. Thank you for your comments.

This particular critique is not about the details of the Plan and whether they need editing, but rather is about the larger picture the Plan presents. We see some large discrepancies in the document, and some glaring omissions. Correcting these will improve the usability of the Plan enormously. Comment noted.

## PROCESS QUESTIONS

FOSC was a part of the public process from the beginning, and now, near the ostensible end, we would really appreciate some data about the process which we were not given as it was happening, and which would help us understand what occurred and why, and, hopefully, give the public some information towards avoiding its reoccurrence. These questions are specifically for the Santa Cruz County Resource Conservation District. See responses below.

1. According to Marty Gingras of the Dept. of Fish & Game, no public review of the Plan was required. Do you agree with this statement?

Contractually, there are no Dept. of Fish Game policies requiring public review of the Soquel Assessment. The SCCRCD has chosen however to include public review as we feel that it is valuable to the process.

2. Was there ever an intention by the SCCRCD to include public input in the Plan? If so, why isn't there any?

Yes, the RCD has always intended to include a public process in the review and comment of the Draft Assessment. In January 2003, the RCD responded to a letter submitted by the FOSC (see attached) and it was our intention to circulate the Assessment and recommended projects in March of 2003. Unfortunately, given the project delays and contractual project deadlines for Fish and Game, public review was postponed until the Draft Assessment was circulated on May 1, 2003. The Assessment



was not funded nor structured to be a public directed process, Fish and Game and Coastal Conservancy contracted with RCD to sub-contract with approved consultant's to conduct the watershed assessment. The team of consultants consisted of Hydologics firm (Balance Hydrologics) a fishery biologist (Don Alley and Associates) and a riparian ecologist (Greening and Associates) and Coastal Watershed Council conducted water quality and habitat work. A Technical Advisory peer group was assembled to review the consultant's work in progress. Public review was asked for when there were drafts ready for public review.

3. Please list the dates, times, and places of the Public Advisory Group and the Technical Advisory Group meetings. Please list any complaints you received about lack of timely notification of these meetings.

See attached list of meetings and public communications. TAC meetings were scheduled as frequently as products were available or as needed to meet contractual deadlines. PAG meetings were scheduled in conjunction with TAC progress. When draft products were ready for PAG review, meetings were scheduled or draft product was distributed via e-mail.

No log of complaints about lack of timely notification was kept. There were several delays in receiving the technical work and reports that resulted in fewer meetings.

4. Please list those PAG meetings at which attendance was recorded. Please list the substantive written material provided before each PAG meeting. Please list the public comments you received during the Plan process. Were these comments disseminated in any way to anyone? Did the facilitators under contract provide any notes on public feedback? Were these notes disseminated in any way?

All PAG meetings had sign in sheets. Materials distributed prior to PAG meetings were pertinent to meeting content. Comments received during the Assessment process are filed. Comments received were collected, reviewed and distributed by the steering team. The steering team was comprised of funding project managers, Marty Gingras (Dept. of Fish and Game) and Kate Goodnight (Coastal Conservancy), Kristen Schroeder (County Planning), John Ricker (County of Santa Cruz Environmental Health and RCD Board Director), and SCCRCD staff, Karen Christensen, Carey Cooper and Bobbie Haver. These comments were passed on to the consultants. Responses to comments were disseminated internally. Administrative decisions were based on contractual obligations. The steering team gave directions to consultants for incorporation into drafts. This is consistent with management responsibilities as a lead agency.

5. Did the managers of the Assessment Plan process direct the consultants to make substantive changes to their reports? If so, please describe the group which made the decisions to do so. If these decisions were executed, why is the structure, methods, powers, and qualifications of this group not described in the Plan?

Input from the TAC directed substantive changes to the individual consultant reports as is standard in peer and technical review. In response to input from the TAC, the steering team gave directions to consultants for incorporation into their drafts. This is consistent with management responsibilities as a lead agency. The Assessment is focused on the

watershed assessment findings and projects. Direction given the technical writer was to produce the Soquel Watershed Assessment based on the consultants' reports, synthesized project list, and project matrix. Review and direction to consultants by a managerial team in the finalization of a project document is a standard process and is not typically described in the document.

6. The Dept. of Fish & Game closing date for the Assessment Plan report was April 30<sup>th</sup>, 2003. Did you provide the recommended project list with priority choices to the public before this report was closed to significant revision?

It was the responsibility of the project steering team and the consultants to review the recommended project list prior to submitting a draft by the April 30<sup>th</sup> deadline. It was unfortunate that the contract with Fish and Game could not be extended to provide more time for a public comment period. Fish and Game was satisfied with the April 30<sup>th</sup> document. However, the RCD has always stated that there would be a public comment period and are providing an opportunity now for the public to review and comment on the project priorities before the document is finalized. The RCD intends to forward the public comment summary appendices and revised document to Fish and Game.

7. The words "logging roads" and all discussion of logging roads was deleted from the text of the final draft. Where, when, and by what people was this decision made? Did all three professional consultants agree with this decision? Was this decision discussed with the public? If not, why not?

The report addresses the impacts of rural roads, whether they are used for logging, residential access or both. The significance of sediment from roads is recognized.

8. Please describe the group, which developed the project list. What meetings were held without the professional consultants? Are there minutes of these meetings? Is there any demonstrable substantive public input?

The Soquel Creek Watershed Enhancement Project list was generated by a series of synthesis meetings. The consultants individual project lists were reviewed and synthesized through a collaborative effort including consultants, the Soquel steering team, County Fisheries Biologist, and Coastal Watershed Council staff. This is consistent with the administrative responsibilities of a lead agency.

9. The prioritized project list is not referenced to the consultants' reports, making it seem as though there is no particular connection between the commissioned scientific studies and the projects subsequently chosen. Please reference paragraphs in the consultants' documents to show how the project list was arrived at. Please do the same to show how prioritization was arrived at.

The prioritization of the project list was accomplished during synthesis meetings. Consultants' reports are stand-alone documents. The Assessment is a culmination and synthesis of these reports. Internal communications and editing was consistent with the responsibilities of a lead agency in compliance with contractual obligations and consistent with a voluntary, non-regulatory document.

## OTHER GENERAL COMMENTS

We disagree with the prioritization of the projects in the Assessment Plan. We believe that salmonid restoration would be much better served by placing revegetation and woody debris enhancement as priority one. Landslide, sedimentation, and erosion control should be at least priority two. Little will be gained, in relation to costs, by acquisition of conservation easements and land. Those businesses, which have the largest impact on the creek, timber companies, nurseries, and the quarry, would have to go out of business to grant the conservation easements required. Education and cooperation are the best enhancement techniques, which can be hoped for with these businesses.

The priority of these classes of recommendations varies in the different reaches. In some reaches revegetation is a priority one, while in others it was not felt to be as important by the TAC and the steering committee. In the judgment of the geomorphologist, landslide control would be extremely expensive with limited likelihood of success, which resulted in a lower priority. A wide range of commenters have suggested reducing the priority of easement acquisition. The priority may be reduced, but keep in mind that there are some funding sources that are strictly devoted to such acquisition projects, which can have value in the appropriate circumstances.

Why are there no enhancement targets and goals specified? The original San Lorenzo River Watershed Management Plan and the current San Lorenzo River Enhancement Plan have environmental targets related to fish habitat. The CDFG Draft coho recovery plan had recovery goals for coho densities. Why are there no enhancement goals for water temperature, riparian tree canopy closure, streambed embeddedness, spawning gravel quality, juvenile salmonid densities in the respective resource units? How will you know when you have succeeded in adequately enhancing the watershed?

The Assessment is not a Management Plan like the San Lorenzo Watershed Plan. Much more data developed over the years is available for the San Lorenzo. The Soquel Assessment is essentially a list of recommended enhancement projects. Targets and measuring mechanisms will be generated for each restoration project. Overall watershed fishery habitat improvements will be assessed with the implementation of the monitoring component recommended in the Assessment (pg. 45). RCD has been awarded funding for development of the watershed-monitoring program in Soquel watershed to pursue this further.

Was available fish population trend data used in determining the usefulness of the prioritized projects? Why wasn't this data included in the report? How will the future project effectiveness in salmonid restoration be assessed or measured without baseline data?

Department of Fish and Game focuses on habitat conditions rather than actual populations in promoting enhancement projects. Additionally, the Assessment recommends ongoing fish population monitoring (recommendation 70).

## GENERAL WATERSHED RECOMMENDATIONS

Why are there not some general watershed recommendations related to good care-taking and habitat protection? You have no general recommendations, only recommended projects. These recommendations would provide a basis for recommended projects. Such recommendations are found in the current San Lorenzo River Enhancement Plan. Why not here? Many of the general watershed recommendations in the San Lorenzo Plan are relevant here and should be included. Examples modified to fit the Soquel Creek watershed are the following:

The Plan does include general recommendations. On page 58, Resource Unit 8 refers to Watershed Wide- Throughout the entire watershed. The current San Lorenzo River Enhancement Plan differs from the Soquel Watershed Assessment in three significant ways; 1) Santa Cruz County- a regulatory agency produced the San Lorenzo River Enhancement Plan. 2) The San Lorenzo River Enhancement Plan is a management Plan with regulatory powers to implement the Plan. 3) Considerably more high quality data has been generated over the years on San Lorenzo regarding fisheries, habitat conditions and sources of sediment. The Soquel Watershed Assessment was produced by Santa Cruz County RCD- a non-regulatory agency without power to implement. The Soquel Watershed Assessment is dependent on voluntary participation by landowners in the watershed willing to implement restoration projects identified in the Assessment. It is vital to the success of this Assessment that community members take an active role in watershed stewardship, education, and outreach. Santa Cruz County intends to build on the Soquel Watershed Assessment to generate a watershed management plan for Soquel modeled after the San Lorenzo River Enhancement Plan. Recommendations found in the current San Lorenzo River Enhancement Plan would be evaluated by professional Hydrologists, Geomorphologists and fish biologists for inclusion in the Santa Cruz County Management Plan for Soquel.

The following recommendations not responded to below would not be suitable for the Soquel Watershed Assessment due to the reasons mentioned above, or because the recommendation is specific to the unique conditions found in San Lorenzo that are not found in Soquel. The following recommendations would not be suitable for the Soquel Watershed Assessment:

Recommendations S-3, , S-5, , , S-8, , and SF-6.

**Recommendation S-1:** Identify and repair bank failures or landslide toes that are significant sources of chronic fine sediment loads to the Mainstem and its tributaries. Repairs should be completed using bioengineering techniques and material, where appropriate. Habitat enhancement should be incorporated into the engineering design, where feasible. When using riprap, rocks placed at the toe of the bank should be large enough to provide escape cover (at least 2.5 feet diameter) and scour objects.

RU8 gives general recommendations, while site specific recommendations are given in Appendix B: Project Summary Matrix, description column. See Project #7: Slide zones, Project #17: Erosion Assessment, Project #19 Erosion Assessment. Project #22 Erosion Control, Project #28 Landslide Stabilization Feasibility Project. See RU8 #63: Outreach and Education Program Brochure on Bank Stabilization...

**Recommendation S-2:** Highest priority should go to sediment sources on relatively unimpaired streams and to sources at upstream sites where the sediment inputs

will move through and successively degrade more cumulative lengths of stream habitat.

This is somewhat reflected in the goal to protect refugia on Soquel Creek. It is also more site specific to San Lorenzo River, which has been shown to have significant impacts in the middle reach of the River. It may have some appropriateness for Soquel Creek

**Recommendation S-3:** Locations for sediment catchment basins should be identified and developed, where appropriate. Though a limited number of areas may be suitable for sediment catchment basins, where feasible, they should be used to retain and remove chronic fine sediment loads. To make sediment catchment basins successful, each site must have a maintenance plan along with a reliable source of funding to periodically remove the retained sediment.

This is a site specific recommendation that is more suitable to the Santa Margarita Sandstone areas of the San Lorenzo Watershed and not particularly appropriate for Soquel.

**Recommendation S-4:** Locations for long-term sediment spoil sites should be identified and developed. A significant amount of sediment is removed from inside ditches, and road surfaces during the winter months due to general erosion and removal of landslides. Much of this sediment is deposited in road turnouts or on the outside edge of the road surface, only to be eroded further in subsequent storm events. Establishing a site where removed sediment could be effectively disposed of would remove a significant source of sediment to adjacent stream channels.

This is important for better managing sediment from rural roads and would be appropriate to add to Soquel.

**Recommendation S-5:** Increase the width of no-impact riparian buffers to protect aquatic habitat from excessive sedimentation. There is a growing body of evidence that buffers that limit all land use activities from the riparian corridor protects aquatic ecosystems from potential disruption and degradation. All of these recommendations state that management activities such as logging, road building, clearing, and construction are to be avoided within riparian zones with a horizontal width on both sides of the stream of one-two tree height lengths for the maximum expected tree height unless those activities are compatible with restoration and preservation of riparian and aquatic function.

This is a regulatory recommendation and not appropriate for the Assessment.

**Recommendation S-6:** Develop a County road database and emergency road repair fund. A database documenting the existing public road system in the County should be developed within a GIS framework. Grant funding should be pursued for existing road and culvert problems identified in the database. Repairs should be prioritized which will provide the greatest benefits for fish passage and sediment reduction. An emergency road repair fund should also be developed to supplement money available from FEMA for road repairs.

This would be appropriate, with much of it reflected in the road assessment that was done by PWA. This should be added.

**Recommendation S-7:** Implement a sediment reduction program for private roads.

Since many private roads are often substandard and numerous, a sediment reduction program for private roads should be designed as a cooperative effort between local governments and private landowners, reducing the need for enforcement actions.

This is a goal of the RCD for Soquel Creek and is somewhat reflected in recommendation 58, which should be expanded to include these concepts.

**Recommendation S-8:** Reduce erosion from timber harvest roads. A series of recommendations have been outlined in the Zayante Area Sediment Study to reduce sediment from these sources and include the following measures:

- Surfacing of year-round access roads that are being used for timber harvest activities,
- Up to five years of maintenance and monitoring of unsurfaced roads and skid trails.
- Identify and fix problems associated with legacy roads during the initial THP process, and An engineering geologist should certify grading on inner gorge slopes.

This is more of a regulatory recommendation, some of which could be addressed through outreach.

## **Woody Debris**

**Recommendation WD-1:** Woody debris should be retained, not removed, in all streams. Woody debris is often removed from stream channels through both public and private effort because of the potential flood control, erosion, and property damage issues. Since wood is an important feature in developing good salmonid rearing, overwintering and spawning habitat, attempts should be made to retain wood that is recruited to the channel unless there is an impending threat to life and property. Occasionally, large woody debris jams can result in fish passage barriers. In these cases, the debris jam should be modified to allow passage but most of the large wood should not be removed. The value of wood comes from its large size and ability to produce deep and complex pools for summer rearing and for providing refuge during winter floods. Cutting the wood into small pieces, even if it is left in the channel, removes most of its value.

Currently, RCD staff is developing outreach material describing the benefits of Large Woody Debris.

**Recommendation WD-2:** Fund an outreach program to educate agencies and private landowners about the benefits of woody debris. An education program needs to be established that describes the habitat needs of fish and how woody debris plays an important role in their life-cycle. In addition, misconceptions about the danger of large woody debris in the channel should be dispelled. The outreach program could include mailers to streamside residents, public workshops and other volunteer efforts on local creeks to get residents involved in protecting aquatic and stream resources.

A product under the RCD's current organizational grant is to create and distribute outreach material showing the importance of Large Woody Debris in the active portion of the channel for flood control and habitat enhancement. Conduct a Large Woody Debris outreach event/tour.

**Recommendation WD-3:** When bridges require replacement, use free-span designs with increased flow capacity to allow for passage of woody debris. The removal or cutting of woody debris from streams is often described as a means to maintain unimpeded flow beneath bridges. During high flow events, narrow and undersized bridges, especially those with center columns or culverts, cause log jams to form behind them. The reduced flow capacity beneath the bridge can result in flooding, bridge loss, severe bank erosion and potential loss of life and property. Since most woody debris should not be removed from the system and much enters the stream from landslides and tree fall during storms, the best way to reduce the risk is to replace existing, undersize bridges with free-span bridges that have adequate freeboard above the 100-year water surface elevation to allow passage of large roughness objects such as woody debris. A cost-share program could be developed to private funding to private individuals or road associations to encourage upgrades to private bridges or culverts.

The above description describes a Best Management practice already recommended by the RCD. In the Assessment on page 59, RU8 refers to Outreach and Education Program Brochures as a high priority to landowners on bank stabilization and riparian function values. Activities may include workshops; tours, newsletters, media outreach, and direct technical assistance, dissemination of the County of Santa Cruz Stream Care Guide and coordination of resources with interested landowners. Page 11 of the Santa Cruz County Stream Care Guide includes Managing Woody Material. These guides have been mailed to all residents in the county adjacent to streams.

**Recommendation WD-4:** Incorporate woody debris into stream bank protection projects, where appropriate. Habitat improvements and scour elements, such as large woody debris, should be incorporated into stream bank protection projects to mitigate potential impacts to salmonid habitat. This recommendation can be cross-referenced to Recommendation S-1.

This could be added as a general recommendation

**Recommendation WD-5:** Encourage mixed stands of conifer and deciduous riparian forest. Much of the riparian forest occurring along the mainstem of Soquel Creek consists of deciduous trees such as alder, willow and cottonwood. Though these species of trees are important for nutrient cycling, shade, bank stability and sources of woody debris, they lack the size and durability necessary to act as long-term roughness elements. Large conifer stands of redwood and Douglas fir adjacent to stream channels act as sources of large, durable logs and root wads, providing long-term storage of sediment, act as scour objects for pool development, and stabilize the grade of the stream, reducing downcutting and bank erosion over the long-term. Root systems of large conifers also protect streambanks from erosion. To meet the goal of encouraging mixed stands of riparian vegetation, all future streambank stabilization projects should include

conifer species (primarily redwood) as a significant element in the revegetation work.

On page 40 in Appendix E: Riparian Vegetation Assessment, it is stated that, "The second goal is to maintain a fully diverse array of native riparian species in an actively regenerating condition". In Appendix B: Project Summary Matrix, the description column lists ten revegetation projects.

**Recommendation WD-6:** Monitor large woody debris density and recruitment potential.

The effectiveness of recommendations to increase the size and allow accumulation of woody debris in and available to the channel to create habitat and provide sediment storage capacity should be monitored. Monitoring should occur regularly, especially after wet years, using inventory protocols that record location, type and size of wood and recruitment potential for channel wood. We have worked out a protocol that is more informative for local streams than the one recommended in the *California Salmonid Stream Habitat Restoration Manual* (Flosi et al., 1998).

This could be added.

Passage Impediments

**Recommendation PI-1:** Replace culverts on Class I streams with bridges. Poorly designed or improperly functioning culverts are a source of barriers to salmonids. They are problematic because they often cause downcutting on the downstream side of the culvert, result in high velocities through the culvert and have shallow water during low flow. In addition to their impact on fish passage, culverts often fail catastrophically if they are clogged by debris, resulting in excessive erosion in the vicinity and downstream.

In Appendix B: Project Summary Matrix, the description column lists twelve Fish passage projects.

**Recommendation PI-2:** Modify significant natural passage impediments in the East and West Branches. In some cases, natural conditions may exist that limit passage to salmonids including natural bedrock shelves, bedrock chutes or boulder falls. Several of these potential passage impediments occur in the East and West Branches. These impediments may limit steelhead access to miles of spawning habitat. Making minor modifications to these natural impediments to provide passage under most flow conditions could greatly enhance juvenile steelhead production.

In Appendix B: Project Summary Matrix, the description column lists twelve Fish passage projects.

Streamflow

**Recommendation SF-1:** Prevent increased summer water diversions. Water resources in the San Lorenzo Watershed during the summer months are already



scarce compared to optimal conditions for fish. This recommendation would encourage the prohibition of additional summer water diversion at existing diversion sites and new sites to maintain summer flows at a level adequate to sustain current and future salmonid populations.

In Appendix B: Project Summary Matrix, the description column lists ten projects related to streamflows. The recommendation as written is a regulatory recommendation that is not appropriate for the Assessment.

**Recommendation SF-2:** Water removal for domestic and municipal uses should be located as far downstream as possible, where feasible. By removing the water at the lowest point in the system, the water becomes available to aquatic resources within most of the important rearing areas of the watershed. Water supply agencies and private diverters should be encouraged to assess their operations and cooperate with each other to develop an efficient system that sustains the ecosystem and preserves the water supply.

In Appendix B: Project Summary Matrix, the description column lists ten projects related to streamflows.

**Recommendation SF-3:** Conduct water supply pumping overnight. Streamflow is often the highest during the nighttime hours because evapo-transpiration is reduced. This is also the period of time when fish are less active. During the low-flow summer months, water should be diverted during the hours of 10:00 pm and 4:00 am, if possible. Water diverters should assess their operations during low-flow summer months based on this recommendation and should consider increasing their storage capacity as needed.

On page 58, RU8 Project #59: Instream Flow Modeling Priority 1, RU8 Project #68: Landowner Outreach Priority 1, RU8 Project #69: Outreach & Education Program Brochure Priority 1.

**Recommendation SF-4:** Develop critical flow levels for stream reaches impacted by water diversions. Minimum flow requirements should be developed for reaches impacted by water diversions. Critical flow values would include minimum bypass flow requirements for upstream adult migration during winter and spring months. Once streamflows fell below these critical values, water conservation measures could be instituted.

Data gap listed on page 40, #6 addresses the need to understand the relationship between groundwater pumping and streamflow. Additional hydrology studies of the watershed are needed. Recommendations 59 and 67 provide for instream flow modeling

**Recommendation SF-5:** Develop accurate exceedence probability curves to predict late summer flow conditions. Exceedence probability curves should be developed for several locations in the Soquel Watershed (mainstem and branches) based on historic flow data for wet, average, dry, and drought conditions. If predicted flows are below a level considered critical to maintain viable rearing habitat for salmonids, measures to reduce water consumption can

be initiated by municipal water suppliers in the Soquel Watershed through conservation programs.

Data gap listed on page 40, #6 addresses the need to understand the relationship between groundwater pumping and streamflow. Additional hydrology studies of the watershed are needed. This could be added to #59 and #67

**Recommendation SF-6:** Study the feasibility of using reclaimed wastewater for groundwater injection to replenish aquifers and maximize summer flows. Treated wastewater may be available through several municipalities that extract water from the San Lorenzo River Watershed. A study should be considered to explore this potential flow augmentation source, including potential increased flow volumes, receiving groundwater locations and impacts to water quality. The Regional Water Quality Control Board (RWQCB) prohibits direct discharge of effluent to streams in order to protect water quality for municipal use.

This recommendation falls out of the scope the Soquel Watershed Assessment and Assessment contractual obligations. This recommendation would be more appropriately given to an agency such as the Soquel Creek Water District.

## Bill Vaughan

Santa Cruz County Resource Conservation District  
2003  
820 Bay Avenue, Suite 128  
Capitola, CA95010

August 21,

### **Re: Comments on June 2003 Draft Soquel Creek Watershed Enhancement Plan**

My name is Cassady Bill Vaughan. I work with Staub Forestry, a small forestry-consulting firm in Felton, CA. I am a Registered Professional Forester (RPF), licensed by the State of California to, among a myriad of other things, manage commercial timberlands. Our firm represents a number of timberland clients in the Soquel watershed so when we heard that the local RCD was preparing an Assessment for the drainage, we were interested to learn more about the project, in particular how forestry, as a land use, was depicted. Our primary concern is to ensure that timber harvesting is viewed indiscriminately with regard to other land uses in the watershed, and that the conclusions in the Assessment are based on fact and science, not local politics. As you are probably aware, forest management in Santa Cruz is heavily criticized, and rarely viewed in a positive light. A small faction of local environmentalists, funded by groups such as the Sierra Club, make their living spreading misinformation about the local timber industry in an attempt to extirpate harvesting from the Santa Cruz Mountains. We simply want to know that what is being presented for public review is unbiased and not unfairly critical of timber harvesting. Below find comments on the Report and Appendices. I've limited my comments to sections that deal with timber harvesting, assumptions regarding historic coho populations, and reaches of Soquel Creek that I am familiar with. The page numbering on the digital copy was slightly difference than that which was printed in the June 2003 hard copy draft. For reference purposes below, I used the hard copy page numbers.

### **GENERAL REPORT:**

Page ii "Enhancement Goals" identifies "restoration of potential coho salmon habitat" as one of four goals. While the goal is a noble one, we must consider the limitations of the watershed system we are working in and ponder: 1) that notion that coho salmon may never have been native to this system, 2) fish populations are stochastic in nature, and may be absent from an entire system for decades if not centuries, 3) local hatchery records suggest that our local coho runs have been artificially supported since 1909, and 4) biological systems are not static, but rather a complex evolutionary process involving episodic colonization and retreat, a function of the ever-changing global environment we live in. Appendix A, attached hereto, elucidates these points. The report should identify all references and supporting evidence which concludes that Soquel Creek did, is, or can be capable of supporting a coho salmon run without the benefit of artificial stocking. This is not to say that we shouldn't make every effort to protect our watershed systems by minimizing the potential to increase water temperature, accelerate erosion, etc., but to recognize that the assumption that coho salmon were once thriving in the Soquel Creek watershed without he benefit of plantings and hatchery supported runs, could very well lead to erroneous conclusions. The old adage "poor assumptions lead to poor conclusions" should be applied here.

This is a complex issue that requires further study and evaluation well beyond the scope of the current effort. The goal recognizes the issues of whether Soquel Creek can support natural runs of coho salmon: “restore Coho habitat where feasible”, emphasis on the potential. Soquel Creek is at the southern limit of the range, and they may or may not be there at different periods, under different climatic conditions.

The first sentence on Page 10 should probably include limited agriculture as a land use since there are a number of tree farms near the Summit/Laurel/Old San Jose area, which included together, undoubtedly exceed the acreage of the Olive Springs Quarry which is highlighted. I'd also bet vineyards and orchards comprise an additional hundred acres or more. Yes, small-scale agricultural should be acknowledged as a use that is present.

The last sentence of the first paragraph on Page 10 is a little awkward and not entirely accurate. Consider the following edit: “Roughly one-quarter of the upper and middle Soquel watershed is composed of second-growth redwood and Douglas-fir stands that have been or are currently available for selective timber harvesting. The majority of this approximate acreage is owned and managed by the Soquel Demonstration State Forest (SDSF). On average, timber harvesting during any given year amounts to less than 1% of the total watershed acreage.” I simply wanted to point out that timber harvesting is actually quite limited in this watershed when considered on an annual basis. And, for that matter SDSF has only conducted two timber harvests (1995 and 1998) since dedication of the property in 1991, though a third harvest plan is in the works. The clarification is helpful.

The first paragraph under “Riparian Vegetation”, Page 23, indicates that “In some of the less urbanized locations, the streamside forest may currently be as wide as it was before 1840.” What does “as wide” mean? It doesn't speak to functional riparian cover, densities, etc., which I imagine, are the more important factors regulating temperature. The next sentence indicates that tree cutting is localized on numerous properties, but doesn't generally involve long stretches streamside forest. Given that timber harvesting must maintain 85% canopy cover within 75' of the high water mark of Soquel Creek and 65% canopy between 75' and 150', tree cutting (harvesting) adjacent to this watercourse is very limited, and likely insignificant relative to the riparian portion of this study. My point is that the localized tree cutting is most likely related to residential use, public roads, agriculture, utilities, etc., not timber harvesting. This point is equally applicable to the next sentence that mentions a significant number of small to medium-sized parcels containing short sections of bank where vegetation has been cleared. These parcels are undoubtedly residential parcels, and/or parcels where unregulated tree removals have occurred. The local Forest Practice rules simply don't allow “bank clearing” near Class I streams such as Soquel Creek, except in the very rare instance of a road crossing which is regulated by CDF&G's 1603 Permitting process. If the report is going to point out specific land uses, it should demonstrate a correlation between the findings of the report and the specific land use, ideally including a proportionate contribution. The report does not address specific land uses.

The first sentence on Page 24 indicates that the lowest canopy values were found along the rip-rap area on the East Branch of Soquel Creek which I assume is the McCauley bridge crossing across from the Olive Springs Quarry. This is a prime example of residential use versus forest management as a land use, and the relative impacts to water quality. Immediately downstream of the bridge, across from much of the rip-rap is

an area that we harvested several years ago. As you walk along the Soquel Creek, you can't detect any disturbance or tree removal associated with the harvest, and the riparian area is completely intact. Comment noted.

Page 37 identifies RU3 as the stream reach between the West Branch confluence and the Soquel Creek Water District (SCWD) Weir. However, the map on Page 29 identifies RU3 as the reach between the West Branch confluence and the Hinckley Creek confluence. The SCWD Weir is actually a mile or so upstream of Hinckley. The absence of streamside vegetation between Hinckley and the Weir is apparent, but such deficiencies are related steep, unstable sidewalls that are unable to establish vegetation, a naturally wide channel, and bank stabilization projects (rip-rap). Comment noted. The boundary will be clarified.

Page 46, Recommended Project 5 suggests Land Acquisition/Conservation Easement for the area between Ashbury Falls and the SCWD Weir. Nearly all of the land adjacent to Soquel Creek, and most of the uplands are held by the SDSF, with a few hundred acres owned by a client of ours (which includes the land on either side of the Weir). Is the notion to do something with these parcels? I realize there is some residential use associated with Spanish Ranch, Amaya Ridge, etc., but I can't imagine acquiring those lands is a priority. I guess I was a little confused as to the Priority 2 rating for the creek-side area that is generally well maintained and undeveloped. I don't see that current management of the area covers perhaps 80% of RU2 is not protecting coho and steelhead habitat. Did the author consult maps and look at individual properties to justify an elevated priority. Realize too that ownership and/or easement holding doesn't necessarily accomplish anything. You could simply work with the current owners to accomplish the same goals with or without ownership. I'm sure the SDSF would entertain remedial projects, and I'm quite certain our client would be willing to participate in restoration efforts if needed. Have faith in people's willingness to cooperate in worthwhile projects. A number of comments have questioned the relatively high priority for easements and/or land acquisition. Although this can afford significant protection and grant funds may be available specifically for this type of effort, this priority should be reevaluated.

Page 48, Project 9 speaks to water diversions and their effect on baseflow. Are water diversions above the West Branch confluence really that significant? If so, does each person/entity diverting have a 1603 permit to draft water? Is individual transect data available? There are many surface diversions on Soquel Creek and tributaries, as indicated by the Soquel Creek Adjudication. It is probably unlikely that they have 1603 permits. It is unclear what type of transect data you are referring to here.

It would be nice to have a mental picture of references made in Project 11, for example. Page 49, Project 15 suggests that a portion of the project be directed at "...an educational effort directed to landowners who carry out timber harvests in riparian corridors in the Hinckley Creek subwatershed. The purpose is to impress upon them the importance of leaving a portion of the large conifers in close proximity to stream channels and all other streamside vegetation." There are very strict rules governing the harvest of trees near watercourses, in particular since passage of the most recent Threatened and Impaired Watershed Rules (T&I Rules). Attached hereto as Appendix A, is an excerpt from the Forest Practice Rules, and these requirements are in addition to the standard watercourse and lake protection rules for timber harvesting. Comment

noted. The key part of the recommendation is to leave large standing and fallen wood and clusters in and along the creek.

**FISHERIES REPORT: Consultant's Appendix report comment period is over. Comments on the material in the appendices will be noted to the extent that it bears on material in the main report.**

Page 77 of Alley's report cites a plan written by Steve Singer and Mitch Swanson in 1983. The second paragraph of this citation states that logging and residential development are the greatest two land uses in the Soquel Creek drainage, and that logging was the major land use activity in the East Branch. The paragraph later states that Pacific Northwest studies showed that logging roads increased the rates of debris flow occurrence from 25 to 340 times the natural rate. The citation doesn't once mention that the Soquel Creek logging being discussed is not present day logging, but rather turn of century logging and East Branch logging that took prior to the advent of the Forest Practice in 1974. There is simply no historical context, nor any acknowledgement that there has been a dramatic shift and that annually logging occurs on less than 1% of the watershed. Further, the reference to Pacific Northwest logging has absolutely no bearing on local harvesting, except perhaps in the context of the clearcut and burn eras. It is an irresponsible, inflammatory citation and I believe the entire paragraph should be deleted. If Mr. Alley wishes to use this citation he needs to provide specific information about the period being discussed, and for that matter, the current regulatory environment, so that the reader is not mislead.

Cross-apply application of the watercourse protection measures noted in Appendix B which are designed to protect fisheries habitat during and after timber harvesting.

**HYDROLOGY REPORT: Consultant's Appendix report comment period is over.**

I thought the "Watershed disturbance in Soquel Creek" write-up (Pages 17-20) was fairly well done, though it left me wanting more information. I'm not entirely certain why the second-growth harvesting information only goes through 1992. From 1992 to the present, there have been many changes in the way we conduct timber harvesting, including a helicopter yarding that took place in 1998 in the East Branch. I also think that the "Key Points" in the last paragraph on Page 19 should include the that the Forest Practice Rules have changes dramatically. Current timber harvesting practices in the Santa Cruz Mountains are perhaps the most regulated, highest quality jobs in the entire world. The author notes the decrease in harvesting over years, the fact that harvesting has occurred lower in the watershed, the harvesting in the Sulfur Springs area was heavy in 1971 and 1984 and could be "problematic" if harvesting were to allowed again. I agree that any harvest reentry near the Sulfur Springs area should be approached with caution, but don't know that this is the appropriate forum to offer opinions of risk. Further, I couldn't find the Manson and Sowma-Bawcom, 1992 reference (last sentence on Page 19) in the bibliography.

As a side note, I believe the Croy fire reference on Page 20 (last sentence, first paragraph) burned closer to 2,600 acres, not 26,000.

**RIPARIAN HABITAT REPORT: Consultant's Appendix report comment period is over.**

The same comment I had on the General Report (first paragraph Page 10 re: land use and logging intensity) applies to Page 6. It looks as though the language was duplicated.

Page 28 identifies the Millpond as a former lumbering site that removed vegetation from the bank of Soquel Creek. Again, historical context would be nice (Monterey Bay Redwood Company's mill which operated up until 1942). Unless of course the author is in fact referencing a more recent selective harvest, in which case it would be worth clarifying that too. The last paragraph on Page 28 notes that all of the tributaries have been disturbed by human activities, with logging as the first mentioned. I assume that the author is referring primarily to historical logging, and not current logging. While current logging practices do require stream crossings, the locations are mapped, flagged, reviewed by Fish and Game, Water Quality, County of Santa Cruz, CDF, Mines and Geology, etc., and mitigated to minimize potential impacts.

Page 29 opens with "Taken as a whole, riparian vegetation along Soquel Creek is in moderately healthy condition". It's a broad opening sentence that should and can be characterized more succinctly. The text is quite specific as are a few of the sentences below. I would open with "some stretches of Soquel Creek exhibited dense, very functional riparian areas, while others had been cleared, rip-rapped, etc. Page 23 of the General Report uses this same elusive language. That language represents the overall conclusion of the riparian consultant, and as such we are reluctant to modify.

## **CONCLUSIONS:**

- \* We hope that the Report remains a scientific document without bias. The information being gathered and the recommendations presented should consider all watershed land uses and base projects on priority not political agenda. Comments noted. To the extent that the report does not analyze specific land uses, additional information on logging is not intended to be added at this time.
- \* Timber harvesting is a very minor land use in the watershed. Annually, timber harvesting affects less than 1% of the entire watershed.
- \* Present day forest practices cannot be put in the same category with historical clearcut activities. Any reference to timber harvesting must be put into historical context to avoid misapplication.
- \* The current Forest Practice Rules include very specific protection measures for all types of watercourses, from fish-bearing Class I streams to man-made inside ditches.
- \* We encourage the public to educate themselves with regard to timber harvesting. Interested parties are welcome to contact our office.
- \* Cooperative working relationships should be considered before land acquisition. We don't even manage our parklands well. People are generally willing to do the right thing when educated.
- \* Soquel Creek is not prime coho habitat, and may never have supported a thriving "native" run. Again, this is not a reason to abandon watershed restoration, but to admonish that "poor assumptions lead to poor conclusions".

\* The General Report should make clear the relationship between the Report's findings and data, inventories, assessments, surveys, etc. so the reader can evaluate findings and recommendations without necessarily having to pore through the Appendices. This may be as simple as referencing the Technical Appendices page number in some cases. The main report is intended to be a synthesis document, without specific references to parts of the individual appendices.

Sincerely,

Cassady Bill Vaughan, RPF

#2685

## **APPENDIX A**

### **CALIFORNIA COHO RECOVERY PLAN TEAM Presentation of Forest Landowner Representatives April 24, 2003**

#### **San Mateo Hydrologic Unit**

##### **Discussion of Local History and Hatchery Influence:**

Early research conducted by David Starr Jordan in 1898 indicates that the habitat range for coho salmon is from San Francisco north. A second report by John Snyder in 1912 again confirms that coho were absent from Santa Cruz Mountain streams at that time. The first recorded hatchery planting of coho to the streams of San Mateo County found in the "Historical References to Hatcheries in the Santa Cruz Mountains", (C. Dayes, 1987) occurred in 1909 and, of course, there have been numerous plantings since. It is highly likely that plantings of coho occurred in the San Mateo HU much earlier than this recording.

Between 1871 and 1921, state and private hatcheries distributed a total of 866,695,837 salmon (Chinook, Atlantic, "Land-Locked", and Silver (coho)) and 257,887,233 trout (Rainbow, Cutthroat, Large Lake, Eastern Brook, Dolly Varden, Loch Leven, Mackinaw, German Brown, Steelhead and Golden) to California streams and rivers. Hatcheries continued to vigorously support the sport fishing industry in the state until the 1970's. As a point of fact, the state was in the business of fish production as a commercial revenue generating activity in support of the state's economy (see attached photocopy of 1915 Fish and Game Commission poster). The goal was to provide artificially elevated fish populations such that folks could literally, "walk on the backs of the fish" to cross the various creeks and rivers of the state.

Shapovalov and Taft's very fine ten-year study on the life cycles of steelhead and coho salmon in Waddell Creek made no distinction between hatchery and native fish. On the basis of excerpts from their interactions with the Fish and Game Commission and additional publications, it is absolutely clear that they were well aware of the state's large-scale hatchery program. It is a likely conclusion that they made no distinction between hatchery and native fish in their research because they presumed that all interested parties were likewise aware of the state's hatchery program.

It is clear that the state's hatchery program has had considerable influence over the species distribution and numbers of fish in the San Mateo HU. On the basis of this historical record, it seems a plausible theory that coho salmon are not native to the streams south of San Francisco or



were not permanent in their populations such that a genetic legacy exists. Preliminary archaeological excavations of Central Coast middens in search of forensic evidence of coho have also cast some doubt as to the presence of coho prior to hatchery introduction. Even in the event that “strays” might have periodically entered the streams of the San Mateo HU, they would likely face quick extirpation due to the frequency of stochastic events and coho lacking ability to adapt and survive such events.

Regardless, all anecdotal evidence as to the coho populations of the past must be firmly grounded by the knowledge that these populations were substantially artificially elevated, if not introduced with one explicit purpose—to provide the people of the state with a lucrative and plentiful fishery. The stories and historic photographs of local fishing enthusiasts coupled with the extensive hatchery record corroborates this fact. Locals remember great runs of fish and they believe that they were native runs of coho and steelhead. In reality as concerns the coho, these were planted runs and it is only our inter-generational divide that has kept this from expanding our perspective.

So, the question becomes whether or not we are “restoring” a species that never existed in the streams south of San Francisco prior to hatchery introductions. And, in our “restoration” efforts, are we setting ourselves up for failure if we believe that a self-sustaining population of coho can thrive in this HU without direct hatchery intervention? If the goal of this effort were to create populations of coho south of San Francisco, regardless of historical presence, then I would submit that this could only be accomplished by direct, sustained hatchery intervention.

#### **San Gregorio/Pescadero/Gazos Creek (Año Nuevo) HSA's:**

- Hatchery plantings began at least as early as 1912 for Pescadero and Gazos Creeks and 1914 for San Gregorio Creek (references contained in “Historical References to Hatcheries in the Santa Cruz Mountains”, C. Dayes, 1987). Plantings were overwhelmingly steelhead/rainbow trout, but coho were planted as well. One record dating back to 1937 indicates that 8,880 coho were planted in the San Mateo County HU in that year.
- Hatchery plantings came from the Sisson Hatchery in Siskiyou County, the Tahoe Hatchery, Mt. Shasta Hatchery, and the local Big Creek and Brookdale Hatcheries. Local historian, Mr. Sandy Lydon apparently has record of a private hatchery on Cloverdale Road in San Mateo County operating in the early 1900's. Species planted in San Mateo County included low numbers of Eastern Brook and German Brown trout.
- A 1996 stream survey of San Gregorio Creek conducted by DFG representatives including electrofishing reveals no coho presence in either the mainstem or tributary Harrington Creek, while 411 steelhead were counted in mainstem and 58 in Harrington.
- 1996 stream surveys of Pescadero Creek conducted by DFG representatives including electrofishing reveals no coho presence in any of the reaches surveyed. In contrast, 2,765 steelhead were counted.
- A 1995 DFG stream survey of Gazos Creek counted one juvenile coho and a preponderance of steelhead. Currently, one of three-year classes exists. Risk of extirpation is high.

#### **Stochastic Limiting Factors in San Mateo HU:**

- Timing of the natural breaching/plugging of sandbars at ocean confluence.
- High flood frequency resulting in scouring of redds.

- Deficient precipitation resulting in decreased flows and plugged sandbars such that coho do not make it into their natal streams. Excerpt from Earl Leitzitz's "A History of California Fish Hatcheries 1870-1960", "In 1939, the egg take was below normal because of reduced silver salmon and steelhead runs. The flow of water was so low that fish had difficulty entering the stream from the ocean. This was the result of a long period of deficient rainfall which caused very low flows in many coastal streams (excerpted from discussion of Big Creek Hatchery, 1927-1939).
- Periodic drought resulting in dry reaches or subterranean flows and plugged sandbars. The drought between 1975 and 1977 resulted in completely dry beds on Scotts and Waddell systems and was followed in 1978 by a winter of scouring floods (Bob Briggs and Bud McCrary, personal communication 2003).

#### **Other Limiting Factors:**

- Pacific Decadal Oscillation (PDO).
- Ocean conditions relative to food supply, temperature, predators, etc.
- Misidentification by anglers resulting in accidental take of coho.
- Historical commercial and sport fishing limits.

#### **Recommended Actions:**

- Examine the historical record of fisheries in the San Mateo HU for the purpose of determining natural presence/absence of coho south of San Francisco.
- Determine whether or not a sustained population of coho is a desirable goal in this HU and, if so, support hatchery efforts toward achievement of that goal.

Support the land stewardship efforts of the local forest and agricultural landowner constituency and recognize the current burden of regulation already existing in the San Mateo HU relative to the protection of faunal and floral species.

## **APPENDIX B**

### **916.9, 936.9, 956.9 Protection and Restoration in Watersheds with Threatened or Impaired Values**

#### **[All Districts]**

In addition to all other district Forest Practice Rules, the following requirements shall apply in any planning watershed with threatened or impaired values:

**(a) GOAL** - Every timber operation shall be planned and conducted to prevent deleterious interference with the watershed conditions that primarily limit the values set forth in 14 CCR 916.2 [936.2, 956.2](a) (e.g., sediment load increase where sediment is a primary limiting factor; thermal load increase where water temperature is a primary limiting factor; loss of instream large woody debris or recruitment potential where lack of this value is a primary limiting factor; substantial increase in peak flows or large flood frequency where peak flows or large flood frequency are primary limiting factors). To achieve this goal, every timber operation shall be planned and conducted to meet the following objectives where they affect a primary limiting factor:

**(1)** Comply with the terms of a Total Maximum Daily Load (TMDL) that has been adopted to

address factors that may be affected by timber operations if a TMDL has been adopted, or not result in any measurable sediment load increase to a watercourse system or lake.

**(2)** Not result in any measurable decrease in the stability of a watercourse channel or of a watercourse or lake bank.

**(3)** Not result in any measurable blockage of any aquatic migratory routes for anadromous salmonids or listed species.

**(4)** Not result in any measurable stream flow reductions during critical low water periods except as part of an approved water drafting plan pursuant to 14 CCR 916.9(r) [936.9(r), 956.9(r)].

**(5)** Consistent with the requirements of 14 CCR § 916.9(i), 14 CCR § 936.9(i), or 14 CCR §

956.9(i); protect, maintain, and restore trees (especially conifers), snags, or downed large woody debris that currently, or may in the foreseeable future, provide large woody debris recruitment needed for instream habitat structure and fluvial geomorphic functions.

**(6)** Consistent with the requirements of 14 CCR § 916.9(g), 14 CCR § 936.9(g), or 14 CCR §

956.9(g); protect, maintain, and restore the quality and quantity of vegetative canopy needed to: (A) provide shade to the watercourse or lake, (B) minimize daily and seasonal temperature fluctuations, (C) maintain species where they are present or could be restored, and (D) provide hiding cover and a food base where needed.

**(7)** Result in no substantial increases in peak flows or large flood frequency.

**(b)** Pre-plan adverse cumulative watershed effects on the populations and habitat of anadromous salmonids shall be considered. The plan shall specifically acknowledge or refute that such effects exist. Where appropriate, the plan shall set forth measures to effectively reduce such effects.

**(c)** Any timber operation or silvicultural prescription within 150 feet of any Class I watercourse or lake transition line or 100 feet of any Class II watercourse or lake transition line shall have protection, maintenance, or restoration of the beneficial uses of water or the populations and habitat of anadromous salmonids or listed aquatic or riparian-associated species as significant objectives.

Additionally, for even-aged regeneration methods and rehabilitation with the same effects as a clearcut that are adjacent to a WLPZ, a special operating zone shall retain understory and mid-canopy conifers and hardwoods. These trees shall be protected during falling, yarding and site preparation to the extent feasible. If trees that are retained within this zone are knocked down during operations, that portion of the trees that is greater than 6" in diameter shall remain within the zone as Large Woody Debris. The zone shall be 25 feet above Class I WLPZs with slopes 0-30% and 50 feet above Class I WLPZs with slopes > 30%.

**(d)** **(1)** The plan shall fully describe: (A) the type and location of each measure needed to fully offset sediment loading, thermal loading, and potential significant adverse watershed effects from the proposed timber operations, and (B) the person(s) responsible for the implementation of each measure, if other than the timber operator.

**(2)** In proposing, reviewing, and approving such measures, preference shall be given to the

following: (A) measures that are both onsite (i.e., on or near the plan area) and in-kind (i.e., erosion control measures where sediment is the problem), and (B) sites that are located to maximize the benefits to the impacted portion of a watercourse or lake. Out-of-kind measures (i.e., improving shade where sediment is the problem) shall not be approved as meeting the requirements of this subsection.

**(e)** Channel zone requirements

**(1)** There shall be no timber operations within the channel zone with the following exceptions:

**(A)** timber harvesting that is directed to improve salmonid habitat through the limited use of the selection or commercial thinning silvicultural methods with review and comment by DFG.

**(B)** timber harvesting necessary for the construction or reconstruction of approved watercourse crossings.

**(C)** timber harvesting necessary for the protection of public health and safety.

**(D)** to allow for full suspension cable yarding when necessary to transport logs through the channel zone.

**(E)** Class III watercourses where exclusion of timber operations is not needed for protection of listed salmonids.

**(2)** In all instances where trees are proposed to be felled within the channel zone, a base mark shall be placed below the cut line of the harvest trees within the zone. Such marking shall be completed by the RPF that prepared the plan prior to the preharvest inspection.

**(f)** The minimum WLPZ width for Class I waters shall be 150 feet from the watercourse or lake transition line. Where a proposed THP is located within the Sacramento or San Joaquin river drainages, and the Director, DFG, and the National Marine Fisheries Service concur; the RPF may explain and justify other WLPZ widths on areas where even aged regeneration methods, seed tree removal, shelterwood removal, alternative prescriptions, or rehabilitation will not be utilized adjacent to watercourse and lake protection zones and where slopes are less than 30%.

**(g)** Within a WLPZ for Class I waters, at least 85 percent overstory canopy shall be retained within 75 feet of the watercourse or lake transition line, and at least 65 percent overstory canopy within the remainder of the WLPZ. The overstory canopy must be composed of at least 25% overstory conifer canopy post-harvest. Where a proposed THP is located within the Sacramento or San Joaquin river drainages, and the Director, DFG, and the National Marine Fisheries Service concur; the RPF may explain and justify other canopy retention standards on areas where even aged regeneration methods, seed tree removal, shelterwood removal, alternative prescriptions, or rehabilitation will not be utilized adjacent to watercourse and lake protection zones and where slopes are less than 30%.

Harvesting of hardwoods shall only occur for the purpose of enabling conifer regeneration.

**(h)** For Class I waters, any plan involving timber operations within the WLPZ shall contain the following information:

**(1)** A clear and enforceable specification of how any disturbance or log or tree cutting and removal within the Class I WLPZ shall be carried out to conform with 14 CCR 916.2 [936.2, 956.2](a) and 916.9 [936.9, 956.9](a).

**(2)** A description of all existing permanent crossings of Class I waters by logging roads and clear specification regarding how these crossings are to be modified, used, and treated to minimize risks, giving special attention to allowing fish to pass both upstream and downstream during all life stages.

**(3)** Clear and enforceable specifications for construction and operation of any new crossing of Class I waters to prevent direct harm, habitat degradation, water velocity increase, hindrance of fish passage, or other potential impairment of beneficial uses of water.

**(i)** Recruitment of large woody debris for aquatic habitat in Class I anadromous fish-bearing or restorable waters shall be ensured by retaining the ten largest dbh conifers (live or dead) per 330 feet of stream channel length that are the most conducive to recruitment to provide for the beneficial functions of riparian zones. The retained conifers shall be selected from within the THP area that lies within 50 feet of the watercourse transition line. Where the THP boundary is an ownership boundary, a class I watercourse, and the WLPZ on both sides of the watercourse currently meets the stocking standards listed under 14 CCR 912.7[932.7,952.7](b)(2)); the five (5) largest dbh conifers (live or dead) per 330 feet of stream channel length that are the most conducive to recruitment to provide for the beneficial functions of riparian zones within the THP area shall be retained within 50 feet of the watercourse transition line. The RPF may propose alternatives to substitute smaller diameter trees, trees that are more than 50 feet from the watercourse transition line, or other alternatives on a site-specific basis. The RPF must explain and justify in the THP why the proposed alternative is more conducive to current and long-term Large Woody Debris recruitment, shading, bank stability, and the beneficial functions of riparian zones.

**(j)** Where an inner gorge extends beyond a Class I WLPZ and slopes are greater than 55%, a special management zone shall be established where the use of evenaged regeneration methods is prohibited. This zone shall extend upslope to the first major break-in-slope to less than 55% for a distance of 100 feet or more, or 300 feet as measured from the watercourse or lake transition line, which ever is less. All operations on slopes exceeding 65% within an inner gorge of a Class I or II watercourse shall be reviewed by a Registered Geologist prior to plan approval, regardless of whether they are proposed within a WLPZ or outside of a WLPZ.

**(k)** From October 15 to May 1, the following shall apply: (1) no timber operations shall take place unless the approved plan incorporates a complete winter period operating plan pursuant to 14 CCR 914.7(a) [934.7(a), 954.7(a)], (2) unless the winter period operating plan proposes operations during an extended period with low antecedent soil wetness, no tractor roads shall be constructed, reconstructed, or used on slopes that are over 40 percent and within 200 feet of a Class I, II, or III watercourse, as measured from the watercourse or lake transition line, and (3) operation of trucks and heavy equipment on roads and landings shall be limited to those with a stable operating surface.

**(l)** Construction or reconstruction of logging roads, tractor roads, or landings shall not take place during the winter period unless the approved plan incorporates a complete winter period operating plan pursuant to 14 CCR 914.7(a) [934.7(a), 954.7(a)] that specifically address such road construction. Use of logging roads, tractor roads, or landings shall not take place at any location where saturated soil conditions exist, where a stable logging road or landing operating surface does not exist, or when visibly turbid water from the road, landing, or skid trail surface or inside ditch may reach a watercourse or lake. Grading to obtain a drier running surface more than one time before reincorporation of any resulting berms back into the road surface is prohibited.

**(m)** All tractor roads shall have drainage and/or drainage collection and storage facilities installed as soon as practical following yarding and prior to either (1) the start of any rain which causes overland flow across or along the disturbed surface within a WLPZ or within any ELZ or EEZ designated for watercourse or lake protection, or (2) any day with a National Weather Service forecast of a chance of rain of 30 percent or more, a flash flood warning, or a flash flood watch.

**(n)** Within the WLPZ, and within any ELZ or EEZ designated for watercourse or lake protection,

treatments to stabilize soils, minimize soil erosion, and prevent the discharge of sediment into waters in amounts deleterious to aquatic species or the quality and beneficial uses of water, or that threaten to violate applicable water quality requirements, shall be applied in accordance with the following standards:

(1) The following requirements shall apply to all such treatments.

(A) They shall be described in the plan.

(B) For areas disturbed from May 1 through October 15, treatment shall be completed prior to the start of any rain that causes overland flow across or along the disturbed surface.

(C) For areas disturbed from October 16 through April 30, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days, whichever is earlier.

(2) The traveled surface of logging roads shall be treated to prevent waterborne transport of sediment and concentration of runoff that results from timber operations.

(3) The treatment for other disturbed areas, including: (A) areas exceeding 100 contiguous square feet where timber operations have exposed bare soil, (B) approaches to tractor road watercourse crossings between the drainage facilities closest to the crossing, (C) road cut banks and fills, and (D) any other area of disturbed soil that threatens to discharge sediment into waters in amounts deleterious to the quality and

**beneficial uses of water, may include, but need not be limited to, mulching, rip-rapping, grass seeding, or chemical soil stabilizers. Where straw, mulch, or slash is used, the minimum coverage shall be 90%, and any treated area that has been subject to reuse or has less than 90% surface cover shall be treated again prior to the end of timber operations. The RPF may propose alternative treatments that will achieve the same level of erosion control and sediment discharge prevention.**

(4) Where the undisturbed natural ground cover cannot effectively protect beneficial uses of water from timber operations, the ground shall be treated by measures including, but not limited to, seeding, mulching, or replanting, in order to retain and improve its natural ability to filter sediment, minimize soil erosion, and stabilize banks of watercourses and lakes.

(o) As part of the plan, the RPF shall identify active erosion sites in the logging area, assess them to

determine which sites pose significant risks to the beneficial uses of water, assess them to determine whether feasible remedies exist, and address in the plan feasible remediation for all sites that pose significant risk to the beneficial uses of water.

(p) The erosion control maintenance period on permanent and seasonal roads and associated landings that are not abandoned in accordance with 14 CCR 923.8 [943.8 , 963.8] shall be three years.

(q) Site preparation activities shall be designed to prevent soil disturbance within, and minimize soil

movement into, the channels of watercourses. Prior to any broadcast burning, burning prescriptions shall be designed to prevent loss of large woody debris in watercourses, and vegetation and duff within a WLPZ, or within any ELZ or EEZ designated for watercourse or lake protection. No ignition is to occur within any WLPZ, or within any ELZ or EEZ designated for watercourse or lake protection. When burning prescriptions are proposed, the measures or burning restrictions which are intended to accomplish this goal shall be stated in the plan and included in any required burning permit. This

information shall be provided in addition to the information required under 14 CCR 915.4 [935.4, 955.4].

**(r)** Water drafting for timber operations from within a channel zone of a natural watercourse or from a lake shall conform with the following standards:

**(1)** The RPF shall incorporate into the THP:

**(A)** a description and map of proposed water drafting locations,

**(B)** the watercourse or lake classification, and

**(C)** the general drafting location use parameters (i.e., yearly timing, estimated total volume needed, estimated total uptake rate and filling time, and associated water drafting activities from other THPs).

**(2)** On Class I and Class II streams where the RPF has estimated that:

**(A)** bypass flows are less than 2 cubic feet per second, or

**(B)** pool volume at the water drafting site would be reduced by 10%, or

**(C)** diversion rate exceeds 350 gallons per minute, or

**(D)** diversion rate exceeds 10% of the above surface flow;

no water drafting shall occur unless the RPF prepares a water drafting plan to be reviewed by DFG and approved by the Director. The water drafting plan shall include, but not be limited to:

1. disclosure of estimated percent streamflow reduction and duration of reduction,

2. discussion of the effects of single pumping operations, or multiple pumping

operations at the same location,

3. proposed alternatives and discussion to prevent adverse effects (e.g. reduction in

hose diameter, reduction in total intake at one location, described allowances for recharge time, and alternative water drafting locations),

4. conditions for operators to include an operations log kept on the water truck

containing the following information: Date, Time, Pump Rate, Filling Time, Screen Cleaned, Screen Conditions, and Bypass flow observations,

5. a statement by the RPF for a pre-operations field review with the operator to

discuss the conditions in the water drafting plan.

**(3)** Intakes shall be screened in Class I and Class II waters. Screens shall be designed to prevent the entrainment or impingement of all life stages of fish or amphibians. Screen specifications shall be included in the plan.

**(4)** Approaches to drafting locations within a WLPZ shall be surfaced with rock or other suitable material to avoid generation of sediment.

**(s)** No timber operations are allowed in a WLPZ, or within any ELZ or EEZ designated for watercourse or lake protection, under emergency notices or exemption notices except for hauling on existing roads, road maintenance, and operations conducted for public safety, construction or reconstruction of approved watercourse crossings, temporary crossings of dry Class III watercourses which do not require a "Streambed Alteration Agreement" under the Fish and Game Code or forest conditions requiring harvesting that is approved by a letter of concurrence from DFG and the National Marine Fisheries Service.

**(t)** No salvage logging is allowed in a WLPZ without an approved HCP, an SYP, or an approved plan that contains a section that sets forth objectives, goals, and measurable results for streamside salvage operations.

**(u)** Nonstandard practices (i.e., waivers, exceptions, in-lieu practices, and alternative practices) shall

comply with the goal set forth in subsection (a) above as well as with the other requirements set forth in the rules.

**(v)** The Director may approve alternatives provided the alternative practice will achieve the goal of this section. The Director shall not accept for inclusion in a plan any alternative practice as described in this section where two or more agencies listed in 4582.6 of the PRC and 14 CCR 1037.3 have submitted written comments which lead to the Director's conclusion that the proposed alternative will not meet the goal of this section and the agency(ies) participated in the review of the plan, including an on-the-ground inspection.

**(w)** Other measures that would effectively achieve the goal set forth in 14 CCR 916.9(a) [936.9(a),

956.9(a)] may be approved in accordance with 14 CCR 916.6 [936.6, 956.6].

**(x)** The provisions of 14 CCR 916.9 [936.9, 956.9] shall not apply to a plan that is subject to an incidental take permit based upon an approved Habitat Conservation Plan that addresses anadromous salmonid protection.

**(y)** This section shall expire on December 31, 2003.



## Kristen Schroeder

August 21, 2003

Santa Cruz County Resource Conservation District  
820 Bay Avenue, Suite 107  
Capitola, CA 95010

Dear Santa Cruz RCD,

Thank for the opportunity to comment on the Soquel Creek Watershed Assessment and Enhancement Plan. The Plan provides an excellent summary of the consultant assessments. The summary tables, including Table 2: Limiting Factors and Tables for each resource unit present important information in an accessible and readable format. The Plan and Project List will serve as a roadmap for many years for voluntary landowner-based efforts to protect and restore steelhead and coho salmon populations in the Soquel Creek Watershed.

One comment is to add a watershed-wide recommendation in the project list that addresses outreach and education to landowners to retain woody material in the stream. On page 59, Recommendation #63, RU-8: O& E Program brochure- Priority 1 includes dissemination of the County of Santa Cruz Stream Care Guide, which includes information on page 11 on Managing Woody Material. Another comment is to note that passage barriers above Ashbury Falls must account for an impassable logjam barrier in that reach. This can be added to p. 39.

Attached is a list of minor editorial comments.

Sincerely,

Kristen Schroeder  
Fisheries Resource Planner  
County of Santa Cruz  
701 Ocean Street, Room 400  
Santa Cruz, CA 95060

Minor comments, Soquel Creek Watershed Assessment and Enhancement Plan  
Kristen Schroeder, Fisheries Resource Planner  
August 21, 2003

p. V Statement of Problems, first line. Spell out *Oncorhynchus* first time.  
second to last line. Replace Backflow with Steamflow

p. V. purpose of Plan, line 3. Replace "the Plan" with "this Plan"  
P. VI Major findings. Last line. Add "high" to water temperature

p. 1, third line. Remove extra "in" within in Santa Cruz

p. 24 Fisheries. Replace "primary" spawning grounds with "best" or "most productive". Primary makes it seem like most fish in the watershed spawn in this reach.

p. 34. Add main to title as in Upper Mainstem

Consider adding table numbers to tables in this section, including Watershed Wide Finding and Limiting Factors and for each resource unit. Numbers could be helpful during follow-up watershed meetings and discussions.

p. 42. line 2. If this is referring to the big rip-rap project, I would call it a bank stabilization project instead of erosion-prevention.

p. 43. Add woody material to RU3 and RU4. Exists in RU4 - do you mean RU1/RU6?

The correct term for plural of method is methods not methodologies.

p. 46 Project List #1, last line. Replace topography tends to reduce the rate of ... with topography limits water-intensive development.

P. 49 #15 O & E County Public Works. This looks like a typo....isn't this private timber property? Part of this is also directed at county stream clearance practices.

p. 58 #59. Delete "trout" in front of steelhead.

Consider spelling out Outreach and Education or creating footnote. Some people may not know what this stands for.

Appendices should be singular (Appendix) on each title page Reference unclear

# Kristin Sullivan

Kristin Jensen Sullivan

8/21/03

## COMMENTS FROM THE “SOQUEL CREEK WATERSHED ASSESSMENT AND ENHANCEMENT PLAN”

### Overall comments

The Plan is very comprehensive, complete with great recommendations, excellent tables and matrices, and good watershed maps.

### Comments on various pages

The “Executive Summary” pages are good. I especially like the “Purpose of the Plan”, the “Major Findings”, and the “Recommendations for a Monitoring Program”. The following quote from your “Major Findings” section on page iv is good: “Implementation of recommendations...seek cooperation and voluntary participation of property owners and other agencies and organizations...strategies for education and public outreach are included in this plan”.

Page 2- “The County...should work with other agencies and stakeholders to complete a watershed management plan for the Soquel Creek Watershed, ...”. Good—shows the importance of cooperation and consensus-building.

Page 8- 2<sup>nd</sup> paragraph, an error: “Seasonal low flows are usually diminisheded” (rather than diminish).

Page 8- 1<sup>st</sup> paragraph under “Biological Resources”, an error: ...madrone and Douglas fir (space between Douglas and fir).

Page 8- Good that you added in special-status species and the corresponding table.

Page 10- A pie chart would be nice to depict the overall land uses.

Page 10- Under “Future Land Use Consideration”, perhaps include solutions like sustainable living: i.e., sustainable sites and buildings—residential, business, commercial, and remodels. We would be happy to share with you what we have done at our solar straw bale home.

Page 11 and following- Under “Other Soquel Creek Watershed Enhancement and Study Efforts”, excellent section! It is important to know about other important watershed efforts.

Page 46- “Action Plan” section- Goals and enhancement opportunities are good.

Page 49- “Outreach and Education” section- Excellent recommendations for education topics, outreach strategies, and stewardship development.

Page 50- Good information under “Monitoring Program” section.

Page 51- Good “Recommended Project List”.

Great appendices!

# Robert LaRosa

## Appraisal of The Soquel Watershed Assessment & Enhancement Plan

Robert LaRosa, The Nature Institute, July 2003

### Introductory Statement

Decades of natural resources neglect have resulted in serious degradation of Soquel creek and its tributaries. The cumulative threat to the ecological health of the Soquel Watershed is four-fold; insufficient public interest in restoration, chronic abuse of water resources, poor (and practice and ineffectual use of public funds in salmon-steelhead recovery. As negative impact on environmental quality rises exponentially, the future of Santa Cruz County's natural treasures can no longer be left to chance. But that's the untenable position that authors of the *Soquel Watershed Assessment & Enhancement Plan* are fostering with a document of questionable value. Alarming, the state's Coastal Conservancy and Dept. of Fish & Game and County Resource Conservation District are planning more of the same. Making government expenditures accountable to public oversight—judging projects on real achievement, rather than the usual political rhetoric— would give citizens greater incentive to participate in the management of natural resources. This unfair practice breeds thinking that justifies millions for documents rather than deeds, words instead of works. In appraising the Draft Soquel Watershed Assessment &, Enhancement Plan, this expensive document is fraught with shortcomings: failure to assess nuances and priorities of landowners; omission of egregious human impacts; cavalier editing of scientific data; and disregard of project task feasibility. This document serves the purpose of setting necessary context and priority for future actions and projects in the watershed. We concur that more projects and actions are now needed.

### Qualifications for the Appraisal

Environmental advocacy for salmon and steelhead has been a full time crusade since 1991, with national and state recognition for environmental leadership, including official commendations for public service in educational outreach, and competitive awards for children's science programs and ecological enhancement. Initiating the coalition that petitioned for salmon-steelhead recovery in the Pacific Northwest was a milestone that preceded local efforts on behalf of Central Coast salmonids: charter member of the *Soquel Watershed Group*, serving as environmental columnist for the *Capitola Courier news* and implementing benchmark habitat restoration on a Soquel Creek tributary. Among academic credits are various professional conference presentations, numerous articles, directing college environmental internships and mentoring two masters' thesis projects. Watershed practice includes bioengineering work in San Diego and publications: *Rose Creek Canyon Enhancement-Plan*, *Rose Creek State of the Watershed*, *Simple Technology Against Runoff* and *Steeiy's Amazing Journey*, and science education materials for school children

### Questions About the Assessment's Genesis and Operation

Initial concerns about the Soquel Watershed Assessment & Enhancement Plan (SWAEP) are best expressed as a questions:

1. From where did the project concept come. Who initiated the project on what qualifying basis was the community-based NGO (non gov't organization) selected? This project came out of the CRMP process in Soquel Creek and other parts of the County, and previous stakeholder meetings organized by City of Capitola. Watershed assessments have been or are being performed by a number of watershed groups throughout the state.
2. What was the public competitive process to select NGO participants. Ca. Dept. of Fish & Game issued a Request for Formal Proposal for competitive funding for watershed assessments. Santa Cruz County RCD submitted a proposal in 2000 and was awarded funding to facilitate the watershed assessment and writing of the Assessment. The project was funded in part by the Salmon and Steelhead Trout Restoration Account (SB 217, 1997-. Thompson) and additional funding came from The Coastal Conservancy for contracting technical consultants to conduct the assessments. . if none, why?

3. Who wrote/created the original proposal. RCD Watershed Coordinator wrote original proposal. ...who wrote the scope of work. Scope of work was a collaborative effort based on CDFG *Salmonid Stream Habitat Restoration Manual* protocols.

- what govt agency first approved this proposal. CA Dept. of Fish & Game

.-is this proposal available to the public? Yes.

4. What previous studies in the Soque! Watershed were actually incorporated in the conceptual design of the assessment. References used by consultants in the Soquel Watershed assessment process are listed in each consultant's appendix. For Appendix C –Fisheries Assessment by Don Alley and Associates, March 2003 references are found on pg. 91. For Appendix D- Geomorphology/Hydrology Assessment by Balance Hydrologics, Inc, March 2003 references are found on pg. 73. For Appendix E- Riparian Vegetation Assessment by Greening Associates, March 2003 references are found on pg. 41.

were the Dept. of Fish &, Game's Habitat Inventory' (by J. Nelson) and 'Moores Gulch Creek Fish Populations Study' by N.Lassettre evaluated for relevance. Yes, and both Neil Lassettre and Jennifer Nelson participated on the TAC..

-when and by whom. Fish and Game Biologist on date prior to assessment.

If not integrated in the project's text, why not? Evaluation by Fish and Game Biologist determined that the non-relevance for this assessment.

Can these two studies be made available to the public? Contact Fish and Game, the lead agency, for the availability of these reports.

5. How was the leadership for the SWAEP determined. how was the County's Resource Conservation District made leader of the project. Leadership was determined by proposal acceptance by the CDFG..

6. What was the process and protocol for facilitating public participation and input. The process and protocol for facilitating public participation and input was included in the grant proposal and accepted by the Dept of Fish and Game. .The RCD worked with a Public Advisory Group, conducted landowner outreach, press releases, watershed tours and workshops to solicit public input.

who managed this process and who provided oversight evaluation? CDFG project manager and The California Coastal Conservancy (CCC) project manager had contractual supervision over the RCD staff facilitating the Assessment.

7. Why was the term 'Enhancement Plan' omitted from the SWAEP's original design and purpose...how has the assessment's design changed to include this title? The Soquel Watershed Assessment was based on the scientific assessments: hydrology, fisheries, and riparian vegetation. Assessment reports were necessary before Enhancement Projects could be identified by synthesizing the findings and recommendations. The title of the document has been changed to Soquel Creek Watershed Assessment and Enhancement Project Plan.

### **Critique of the Draft Document**

Appraisal of the draft of the SWA6P is presented as follows: Specific sections identify recommendations for ameliorating content/text problems; and final remarks for improving the SWAEP's relevance and validity.

**Project title.** An exclusive watershed assessment ordinarily *precedes an* ecological enhancement plan, unless the various aspects of the watershed, including a number of historic, ecologic, technologic and cultural impacts, etc., are integrated within an enhancement plan and provide practical data for alternative solutions to watershed management. The assessment portion lacks comprehensiveness (as shall be noted later). We concur and the title of the document is being changed to more accurately reflect the scope and content of the document.

**Acknowledgements.** On what basis was the Technical Advisory Committee (TAC) selected. Members of the TAC were selected in two ways. 1) Professionals and peers to the consultants area of expertise and in the area familiar with watershed assessments were invited to participate, and 2) selection was made on availability of qualified candidates... how many specific landowners were solicited. Landowners were solicited for involvement in the PAG. The PAG (Public Advisory Group) solicitation was open to all landowners and interested community members. Approximately 3,000 notices were mailed to landowners and community inviting them to the public meeting on Sept. 12, 2001. This database was provided by County planning, listing residents adjacent to the stream.

-how done. Landowners and community members were notified by mailings and news media notices of the Soquel Watershed Assessment start up...how many responded, Approximately 30 residents attended the first public meeting. On-going efforts to solicit public involvement came through direct landowner outreach, workshops and tours.

and from which locales-Attendees ranged from upper watershed to lagoon areas.

what was the rationale for the TAC being comprised of mainly gov't TAC was comprised of professional and technical personnel selected for their expertise in the fields of hydrology, geomorphology, fish habitat and biology and riparian habitats.

employees and persons associated with gov't organizations? Persons associated with gov't organizations pertaining to resource management and protection needed to be included for compliance of regulations in Assessment development.

Who actually formed the Public Advisory Group (PAG). The Soquel PAG was formed at the onset of the SWAEP process by the watershed coordinator at the time.

-what were the qualifications for membership in the PAG. Qualifications for PAG membership were open. Any persons interested in the Soquel watershed and willing to work with others, and also willing to be available for reviewing documents and attend meetings as needed...

how were 'stakeholders defined and who are they.. Stakeholders include a mix of private, public, business and government people with expressed interest in the Soquel watershed.

.how were landowners solicited. Landowners and community members were notified by mailings and news media notices of the Soquel Watershed Assessment start up. In addition, there was direct outreach from workshops and tours and direct landowner contact...

Of the ninety (90) individuals who were stated as attending Public Outreach Efforts, how many offered suggestions, specific or general information or made comments about the project. no tally was made.

.was there any documentation to such public input. Input from public was collected, reviewed and disseminated to consultants as pertaining to their field of expertise

Will public feedback, both past and present, be incorporated *verbatim* into the SWAEP. Comments pertaining to the Assessment will be compiled verbatim in an appendix along with a summary of the comments and responses. The document will be modified in response to comments where suggested changes add value to the document or better reflect condition of the watershed. Comments pertaining to the process will be responded to individually in written correspondence.-if not, why?

**Executive Summary.** In the Statement of Problem/Issues, what does the phrase 'declines in quality and quantity of instream habitat' include. Declines in quality of instream habitat refer to degraded fishery spawning and rearing conditions. Declines in quantity of fish habitat refer to reductions in flow and impediments and barriers to fish migration thereby reducing amount of stream available to fish.

is 'water temperature' included in habitat, or is it related to some other aspect attributable to salmonid decline.

how are the terms 'episodic events' and 'ultra-low backflows' specifically defined? Episodic refers to events with less frequent occurrence such as earthquakes, floods, or large wildfires. The latter term is a typo and should read "low baseflows"

What specific issues related to the project's stated problem have been omitted from the Summary? The summary includes the most critical issues. Other less important issues would be covered in the body of the document.

What is the history of the RCD?

RCDs have a long history in assisting landowners with resource management issues. At <http://www.nacdnet.org/> you can find information about the National Association of Conservation Districts. Today there are nearly 3000 conservation districts--one in almost every county. Now expanded to serve all the conservation needs of our nation, districts educate and help local citizens conserve land, water, forests, wildlife and other natural resources.

At [www.carcd.org](http://www.carcd.org) you can find information about the California Association of Resource Conservation Districts. California now has 103 Resource Conservation Districts, most of which are funded largely through grants. A few receive limited funds through county property tax revenues. The Department of Conservation and the Natural Resources Conservation Service provide training and in-kind support, as well as a watershed grant program for districts.

At <http://www.sccrcd.org/> you can find information about the Santa Cruz County RCD. The District has taken great pride in serving the agricultural community since its inception over forty years ago. As crops changed, so did tillage and irrigation methods and the District has been there to help farmers incorporate the latest conservation measures into practice. The District" service has spanned the land use changes from rangeland to apples to berries, and from furrow to sprinkler to drip irrigation.

Because a major portion of the County is in steep terrain with unstable geology and high precipitation, there is the constant threat of erosion and sedimentation. The District has an innovative program that gives conservation assistance to road associations, timberland owners, environmental organizations, governmental resource agencies, and the general public through conferences, workshops, and demonstrations. Especially in times of storm, fire, or earthquake, the District has quickly responded to the public's need for emergency informational assistance.

A more recent endeavor of the District has been to assist various watershed groups in their dissemination of conservation information, and in their implementation of resource enhancement projects on the ground. This type of conservation assistance is very efficient with the District's limited budget. The District is able to help a large group of people at a time, and gets immediate response from the public as to the effectiveness of their services.

With a growing program, the District has always been aware of the need to seek a diverse source of funding for its programs and staffing. Initially, the District relied heavily on property taxes and the USDA Soil Conservation Service (Natural Resources Conservation Service). With the passage of Proposition 13, and the federal government's cutback in services to Districts, the District has sought and received other sources of funding. Public and private competitive grants now make up a large portion of the District's funding. The District has been successful in receiving these grants because we have addressed timely resource conservation issues that have met public need while collaborating with other resource agencies and public interest organizations.

SWAEP authors' approach to omitting consultant data and eliminating public input jeopardizes the Plan's stated purpose, and moreover, nullifies the true purpose of an assessment: Step-by-step procedure whereby methodical inclusion of interrelated and interdependent elements— watershed conditions (past and present) and sentiments of watershed inhabitants (attitudes and expressed concerns, interests and prejudices, etc.)— are tallied systematically to define 'what is and what should be/ The Executive Summary fails in this regard, and moreover, irresponsibly uses the phrase "propose and justify a prioritized list of projects and actions," a 'list' rife with impracticability and of questionable economic and social feasibility. (Without landowners' tacit approval and assured volunteer labor for this proposed list—including direct participation in project design, and guarantee of tangible assistance in task implementation, the cost of "projects and actions" will predictably skyrocket beyond economic reach.) The

success of the SWAEP is dependent the voluntary willingness of landowners to implement the recommended projects. The Assessment is scientifically based document intended to promote long-term watershed stewardship. As a result of meetings during document preparation and the current public comment process, the document reflects the concerns of most of the agencies and watershed property owners that have participated. More education and outreach is needed and is recommended. It is expected that further refinement will come form focused work with the affected property owners and businesses.

The last two sentences of the Purpose of the Plan appear to undo the justification for the SWAEP by ignoring the obvious: 1) salmonid habitat in the Soquel Watershed is degraded primarily by adverse impact of human intrusion; 2) most of the watershed's instream and riparian habitat is threatened by poor land practice; 3) adverse human impacts fall under the purview of various CEQA, Clean Water Act and other environmental statutes/regulation/taw. Worse, the SWAEP's disclaimer for any responsibility or obligation with enforcement of environmental quality regulation nullifies the need for the project because, as stated, "Local, State and Federal resource agencies are concurrently developing...plans that are regulatory in nature." If such is the case, then the SWAEP ought to be providing data and documentation in direct support of such planned (and existing) regulation.. This wording will be revised. The findings of the Assessment will help contribute to ongoing watershed management efforts by other agencies. The next three sections— Major Findings, Goals and Recommendations— are breathtaking in their blithe assessment, understatement and generalities Comments are noted.

**Major Findings.** As if the document's terse, technical language was not difficult enough, vague references to 'channel stability, spatial variability and problematic sedimentation' totally ignore the adverse impact of water diversion, surface water pumping and ground water wells on the watershed's crucial aquifer. Without a clear and meaningful assessment of water resources depletion (or the realities of landowner attitudes toward such ecological issues), the Draft SWAEP's rationale and function are moot. Noted on page 40 in Data Gaps, item 6, "more work needed to understand the relationship between groundwater pumping and streamflow."

The section on Riparian Vegetation overlooks those tributaries with excessive redwood canopy and resultant loss of riparian photosynthesis and negative affect on macro invertebrate populations crucial to sustaining salmonids. Moreover, the critical value of streamside and instream emergent plants in hiding/protecting salmonid fry and young juveniles was omitted. Also unquestioned is the Dept. of Fish & Game recommended "85% canopy closure" in areas with little vegetation (from over-shading) in view of scientific data supporting enhanced salmonid growth in reaches with warmer water temperature.

**Enhancement Goals.** That the Draft SWAEP promises to "establish refugia and restore salmon habitat" without exhaustively analyzing existing stream restorative/enhancement projects on the Central Coast, and extensively interviewing professionals and amateurs who have years of instream, hands-on experience in the watershed, is incredibly presumptuous. The Plan's lack of credibility is evidenced by the authors' audacious claim that the SWAEP will "remove limiting factors affecting juvenile steelhead." What next, ending world hunger? Each technical consultant performed a review of prior studies appropriate to their field to incorporate the prior knowledge base into their work .

First and foremost, the Plan ignores crucial limiting factors: juvenile salmonid predation by marine mammals and various species of seabirds; Capitola Estuary's lack of cover for migrating smolts; and the disastrous effect dewatering has on the creek and its tributaries. (Instream habitat factors critical to fish populations are cover, food and rearing pools.) Diminished baseflows are addressed; conditions in Capitola lagoon and in the ocean are beyond the scope of this effort. Capitol lagoon is addressed in the Capitola Lagoon Enhancement Plan, which is referenced n this Assessment.

The fourth goal—"Provide outreach and educational materials" may be the Plan's true purpose, Printed materials, meetings, conferences and management planning make for feel-good activities, which all too typically, put process over real results. We disagree with this comment. The RCD typically receives considerable positive feedback on the value of work shops on erosion control, road maintenance, etc. Follow-up contacts have shown that property owners implement effective measures as a result of what they have learned.



**Summary of Recommendations.** The unbelievably aloof statement that the Plan's proposed projects will "directly enhance the quantity and quality of habitat for coho salmon and steelhead" blatantly ignores decades of studies, plans and billions spent for every salmonid management measure imaginable, including the 50-million dollar failed promise by Dept of Fish & Game to "double populations of salmonids by the year 2000." For the editors of the SWAEP to boast of bringing back spawning and rearing habitat in the Soquel Watershed— without assessing previous restorative efforts— is pure fantasy. Restoration and enhancement will only result from many cumulative efforts. It will not happen with one project, or one initiative We believe each effective project will have cumulative benefits.

These unsubstantiated claims, made repeatedly to justify the SWAEP's enormous cost (and even greater expense of follow-on projects), are outlandish and smack of malfeasance. Such rhetoric may convince some that the SWAEP is a viable plan, but a cursory examination of the 'prioritized list of projects,' in the name of salmon-steelhead recovery, reveals a poor grasp of bioengineering. It is safe to believe that costs for only a few projects— engineering design, environmental planning and related construction, etc.— will exceed \$10,000,000. Land acquisition may be many times that figure. Additionally, expense of maintaining project implementations, which could easily add 60% to project costs, is not even mentioned! The disingenuousness of the Draft SWAEP text in the Summary of Recommendations section is phenomenal. For example, the statement "...the level of detail necessary to fund and implement these projects requires further analysis" infers follow-on grants for more studies and plans, making a mockery of ethical expenditure of tax dollars and the huge costs to citizen activists whose tireless work on behalf of endangered salmonids made possible the money for public agencies to spend on this questionable document.

In retrospect, spending nearly \$400,000 (actually \$270,000) (including regular salaries and collateral agency expenses) on an assessment of little practical value is truly amazing. For the same money, exemplary habitat enhancements— based on a number of past studies— could have been implemented, serving as on-site demonstrations and training for watershed landowners. It is unfortunate that creekside landowners' attitudes were not assessed. Creekside landowners were contacted and informed of the effort.

With fishing no longer viable and tangles of poison oak and deadfall making many tributaries difficult for nature appreciation, overcoming public apathy is vital to successful habitat restoration. Just as important, is the time, money and effort volunteers must expend to provide oversight for expenditures, such as the SWAEP/ which are intended for public benefit

Proof of the Plan's leadership in ignoring the realities of how to save steelhead from extinction or to bring back coho salmon can be found in the chapter 'Overview,' which completely omits an assessment of watershed residents' grasp of salmonid habitat issues and their vivid memories of seeing (and killing) plentiful 30-inch steelhead in every creek.

This section's, Anadromous Salmonid Life Cycle, omits one of the most important facts about salmonid survival: Under present biotic conditions, only a miniscule number of steelhead eggs (far less than 1%) will result in an adult fish capable of reaching its home stream and being able to spawn successfully in the Soquel Watershed..

Reality of salmonid survival is also absent from the Biological Resources section. Boasting that the Capitola Lagoon "provides good habitat..-and supports as many as 3,000 juvenile steelhead" ignores the lagoon's poor water quality and lack of protection from predation by marine mammals and seabirds. The fact that it may take several thousands of juvenile fish to assure that some adult pairs will return to the watershed's tributaries has escaped the SWAEP's authors. The lagoon actually has very good water quality for fish in 14 out of 15 years. Details of lagoon management were not intended to be addressed in this assessment document.

Moreover, the notion of 'good habitat' flies in the face of the total disappearance of coho salmon and steelhead's present risk of extinction. The loss of steelhead and coho is more a result of watershed conditions than lagoon conditions.

Even more conspicuous brevity and omission is evidenced in the section Land Use- A litany of land uses is presented without any explanation, or analysis in detail, of how each of these seven uses impact salmonids directly or indirectly, except with this profound understatement:

"housing and other population-related development may have an adverse affect on salmonid spawning and rearing habitat." This sentence also contains the salient, poignant caveat:

Saving salmonids requires the implementation of "comprehensive solutions" that are compatible with what is termed "Best Management Practices (BMPs)," but even this ultra- briefly identified term has a disclaimer. It seems that BMPs cannot overcome "key challenges to effective maintenance and restoration" because of the physical realities [spurious management decisions] of Santa Cruz County's Planning Dept, which incidentally spawned the SWAEP's leadership— the Resource Conservation District. We concur that the section referred to should be clarified. The RCD is created under state law and did not come from County government or the Planning Dept.

The wholesale lack of practical value in this draft document— and its obtuse political syntax, is revealed nowhere better than in the second paragraph of Future Land Use Considerations. Here is the crux of dramatic declines in Soquel Creek's salmonids— a catastrophic loss of dependable water. But instead of directly pointing to unrestricted, excessive water use by nurseries, livestock farms and urban development,. this paragraph states that comprehensive water storage and distribution" is necessary to save the creek's steelhead. Not a word is offered to provide insight into how this concept can be permanently implemented. Included in Appendix B: recommended project summary matrix, there are a number of projects dealing with water flow issues.

The questionable worth of the SWAEP is further revealed in the following statement that fortuitously explains why the Soquel Water District will continue over-drafting ground water without applying strict conservation that produces "no net loss of water resources:" "...new water right applications [may] protect coho salmon and steelhead habitat, [but] monitoring compliance with existing bypass [water use regulation to protect salmonids] is politically and logistically difficult." Impossible would be more accurate, in view of the fact that until the 1960's Soquel Creek and its tributaries provided sport fishers with a creel limit of ten (10) steelhead per day! Salmonid populations have declined dramatically throughout the State, not just in Soquel, for a variety of reasons, including streamflow loss and sedimentation.

**Other Soquel Creek Watershed Enhancement and Study Efforts.** For even the political neophyte, there is ample evidence that the Draft SWAEP is a self-serving exercise of the Resource Conservation District, Coastal Conservancy and Dept. of Fish & Game. Being proud of previous achievements is one thing, but to justify the Plan by describing activities of questionable worth is political chicanery.

Soquel Creek Task Force. The Capitola City Council purportedly identified major problem areas facing Soquel Creek, going so far as to recommend solutions to remediate specific impacts to water quality and fish habitat, and further, to "spearhead vehicles for implementation of solutions." It's astonishing that none of this study was worthy of inclusion in the SWAEP, especially in that, except for the study's paltry grant funding compared to the nearly \$400,000 SWAEP, the Soquel Creek Task Force did essentially the same job! If these "enhancement and study efforts" were truly done with an intended purpose to achieve practical results (other than to support bureaucratic self-interests), the present Soquel Watershed Assessment and Enhancement Plan could have been done for a fraction of its cost...and would have been done years ago! That initial work was included in the preparation of the assessment.

**Watershed Conditions.** The Geomorphology and Hydrology sections need rewriting for grammar, syntax, diction and general readability. The last paragraph concerned with roads is a 'no-brainer' regarding sediment impact, but offers no hint about ways to deal with unpaved roads, and doesn't even mention how adverse effects of petroleum oils (there are several used in asphalt or oil-aggregate road surfacing) can be reduced. Comments noted. Petroleum oils as a part of asphalt or properly applied to roadways have not been found to be a significant problem.

**Riparian Vegetation.** The information in this section, while readable, contains elementary verbiage consistent with biologic reports. In the Rearing Habitat paragraph, what needs to be included is a *description of plant communities*, their crucial role in providing cover and food production, and the relationship of sunlight in single cell organism propagation. Fry and juveniles, who must strictly conserve energy in the low food reaches where tree canopy limits macro invertebrate production, depend on streamside ferns, etc., to hide under. The term 'riparian vegetation' is inaccurate in regards to tributary reaches where redwood forest has shaded out true riparian species, such as willow, cottonwood, oak, etc. The paragraph, Shade and Water Temperature, ought to include the fact that science has determined the growth benefit to salmonids of warmer daytime water temp. (up to 74 degrees) and how leaf debris is used by aquatic macro invertebrates, especially alder, which tends to drop green leaves

rich in nitrogen and other nutrients. For the purposes of this and many other assessments riparian vegetation is noted as any streamside species that provides shade and inputs to the creek, including redwoods. The other values you note are discussed on page 16

**Fisheries.** It might be valuable to include an explanation of why the Capitola lagoon and the reach between the lagoon and Moores Gulch provide fast growth for salmonids, and also to attribute a reason for the abundance of juvenile steelhead in the Soquel Demonstration Forest. The last paragraph might be more informative if 'critically wide, shallow riffles' can be illustrated as 'mud flats where water trickles in meandering braids, due to deposition of eroded soil from unprotected hillsides, roadways and horse corrals.' The characterization of critical riffles is not correct: they typically consist of coarse material from erosion, scour, and deposition of bed and bank material. Assessment of bottom material size is important to understanding the dynamics of the channel and upstream sediment contributions. While assessment of benthic invertebrates can also be useful, it is costly and has not generally provided significant additional information in this area (see San Lorenzo Watershed Plan, 1979, Aquatic Habitat Technical Appendix).

**Assessment Methodologies.** This major section, as others, is sparse on informative text, but like its following section, General Watershed Findings, is generous with vague references to obtaining results that will sustain healthy populations of steelhead and facilitate the reintroduction of coho salmon. While some assessments were reasonably comprehensive, the information contained in the SWAEP is nowhere near 'exhaustive' for the amount spent on this document. The Hydrology and Geomorphology sections claimed to have described conditions, which "have been or currently are limiting salmonid populations," but according to pages 21-23 this important objective was not achieved. Also, the Fisheries section's last paragraph would read better if "fish passage problem impediments" was changed to 'impediments to fish passage.' Comments noted.

**General Watershed Findings.** It would be helpful to the purpose of the Plan if the section on Geomorphology findings explained how certain conditions affect salmonids, rather than merely report technical properties and measures. Project matrix explains problems and benefits to be achieved.

The same goes for the Hydrology section. Describing exemplary instream conditions (riffles, etc.) and providing easily understood examples of do-it-yourself habitat enhancement is crucial to attracting the kind of 'land owner cooperation' hoped for by the SWAEP. Project matrix explains problems and benefits to be achieved. Training on stream enhancement methodologies are probably better done in the field.

The Riparian Vegetation section's second paragraph (page 24) needs clarification. For example, the following is vague: "There are a few locations where the stream has historically migrated laterally." Additionally, it would be helpful to restorative concerns if this section included specifics about locations that held good quality riparian vegetation. Details are provided by transect in the appendix..

The Fisheries section, while judiciously spending a footnote paragraph on explaining 'redd/ was quite brief on facts that juvenile growth rate is slow with low summer baseflow. The second paragraph on page 25 mentions a 'year' when redds would be highly visible. Which year? The same kind of explanation would be helpful in explaining what kind of 'objects' provide escape cover downstream of the West Branch. Comments noted. Some rewrite for clarification will be added. The year referred to is 2002, the year the spawning assessments were done. Low and typically rates of growth in the upstream areas may be a result of more than low flows. Objects that provide escape cover are typically logs, stumps, boulders.

Description of the impediment to fish migration— bedrock falls on Moores Gulch—was especially pertinent, as portions of this stream have benefited from decade-long enhancement. (Note: Members of the County Fish and Game Advisory Commission and County Planning Dept personnel have been made aware of these instream barriers. Assistance for reducing the height of bedrock ledges, including timely monitoring of the Moores Gulch fish ladder ought to be an ongoing maintenance priority) Comment noted.

**Reach-Specific Limiting Factors and Constraints.** The Summary detailing why steelhead are not abundant or well distributed throughout the watershed is notably brief for such an important segment of the Plan. It certainly needs rewriting to reflect the severity of steelhead's plight. For example, the second sentence listing limiting factors ought to have adjectives, such as 'poor' to describe spawning habitat; 'low'

to modify spring and summer baseflow; 'lack' to explain the amount of escape cover. The term 'habitat depth' could use explanation or inclusion of an unambiguous phrase. Comment noted, the document will be modified to reflect that.

## Appraisal Conclusions

Quality Shortfall. A watershed wide study is certainly an ambitious undertaking that requires the resource capability of the participating government agencies. From personal experience in an urban watershed the size of Soquel's, grant funding for the document was more than ample to have produced a more attractive, informative document, with comprehensive mapping, illustrated habitat conditions, a greater degree of pertinent data analysis and professional editing for readability and overall practical value. Comment is noted.

Data Shortfall. Other than the fisheries portion of the SWAEP, salient questions have gone unanswered, some of which, are actually asked (but not addressed). (vegetation) plant communities and their role in salmonid survival; (geomorphology) locations where impacts of sediment (and its identified sources) are most prevalent; and (hydrology) specific sites where stream flows are being impacted by surface water extraction and by ground water pumping. And as the geologic consultant, himself, asked: "Where and when is the Purisima Aquifer System [primary subsurface source for the watershed] recharged, and how might future changes in recharge offer opportunities or challenges for sustaining baseflow in Soquel Creek?" Data Gaps, p. 40 , addresses the need for this data to be collected.

Besides the pertinent concern, just quoted, others that need immediate attention are:

1. Methods to compensate for low streamside and emergent foliage (if waterway tree canopy cannot feasibly be reduced) to permit needed increase in sunlight for plant and aquatic insect propagation. We are not aware that the need for this or the implications have been documented or evaluated
2. Procedure for assessing and monitoring food source populations (macro invertebrates and other species).
3. Sources and extent of predation by sea mammals and seabirds in Capitola Lagoon. DFG and NMFS are evaluating this on a larger scale.
4. Methods to reduce attrition of salmonids in the estuary.
5. Specific solutions to reverse the loss of aquatic vegetation. What is this?
6. Technologic alternatives for physical structures that protect salmonids in the Lagoon, City of Capitola has received grant to address some of the lagoon water quality issues.
7. Strategy to ameliorate the adverse impact of automotive and other industrial and retail wastewater runoff entering the creek. The County and City are beginning implementation of a stormwater management program.
8. Protocol for monitoring, assessing and evaluating the volume of water being extracted directly from all surface waters in the Soquel Watershed. This is underway at the County level.
9. Questionnaire (with professional objectivity assured) to evaluate government-funded watershed/salmonid education efforts, particularly, the effectiveness of previous public outreach publications provided by the RCD and RCS. Evaluations are completed and submitted at the end of each workshop.
10. Opinion survey of landowner stewardship: individual opinion/position on surface and ground water usage; concerns/priorities regarding creeks, aquatic species, riparian habitat; willingness to be involved in salmonid populations recovery; and opinion on RCD public outreach (brochures, etc.) This could be a valuable outreach and assessment tool.
11. Details for identifying existing and ongoing creek projects, whether done by volunteers, government agencies or industry, to protect salmonids and their habitat. This is underway at the county level
  13. Specific technologies and respective costs related to each Plan-recommended project. This will be done in the next phase of implementation
  14. Feasible strategies for inducing/facilitating landowner 'do-it-yourself habitat repair. This is being one through a variety of measures, including permit coordination.
  - Is item 12 missing for a reason? Comments, and recommendations are noted for the record.

## Epilogue

Recent history of California's Coast includes huge infusions of cash intended to reverse adverse environmental effects, such as the loss of wetland habitat and species decimation. There is no shortage of studies and plans, but sadly, results of the billions spent are shocking: species disappear daily;

waterways are trashed and polluted; marshes become homeless camps. The greatest benefit of studying watersheds to save steelhead and coho salmon is political expediency and public sector job security.

Comment noted.

Although the vision of public works has changed little, the practice of government service for the greater community is disappearing along with wild salmon. Few, if any, public servants are engaged, enthusiastic or motivated to excel. This sad reality has spilled over to the private, nonprofit sector, where grant recipients are pressured to conform to political process, rather than honest, measurable results.

Comment noted.

State legislators can help legitimize environmental project funding by setting aside a portion of all project budgets for 'citizen review.' Because community advocates are willing to devote personal resources in providing oversight for failed government practice, volunteer stewardship may be the last resort to save imperiled fish and wildlife and what's left of the places they call home.

Comment noted.

### **Public Agency Response**

Though this appraisal may be discomfiting to originators of the Soquel Watershed Assessment & Enhancement Plan, it is important to public process. Because of the extensive labor involved—in response to a personal invitation by leadership of the RCD, a full and complete formal reply to this submittal is expected. If for any reason such response is not forthcoming, reasons should be immediately put forth in writing and sent to Dr. Robert LaRosa, 1000 Laurel Glen Rd. Soquel, CA 93057.

Comments noted, response letter will be sent as soon as is feasible.

**Ellen Pirie**

August 21, 2003

Santa Cruz County Resource  
Conservation District  
820 Bay Avenue, Suite 107  
Capitola, CA 95010

Dear Directors:

Thank you for the opportunity to comment on the Soquel Creek Watershed Assessment and Enhancement Plan. To my knowledge, it is the first plan that prioritizes restoration projects that will have the most value in restoring fisheries habitat within the Soquel Creek watershed. When distributed to residents, it should prove to be a useful and practical citizen's guide to restoration projects.

There are a number of issues which were not within the purview of the plan to be addressed which Santa Cruz County, perhaps in partnership with the RCD, hopes to explore and integrate with the assessment plan. Those issues include water rights, code compliance issues, land use, and information on current logging.

I would make one recommendation for improvement, not of the content but on the format of the proposed Soquel Creek Watershed Assessment plan. The report and appendices do not have a common organizational structure, which makes comparisons difficult. At this stage, it is too late to modify the consultant reports. The main document does seek to synthesize information, as well as summarize it for each topic area.

I have appreciated and look forward to a continued working relationship with the RCD to identify funding and to implement the many projects identified in the report. I believe the proposed permit coordination program that is currently in the process of County approval will provide the opportunity to move forward with these restoration projects.

Sincerely yours,

ELLEN PIRIE, Supervisor  
Second District

EP:pmp

## Tom Sutfin

You and all of the researchers and staff who contributed to the completion of the Soquel Creek Watershed Assessment and Enhancement Plan are to be commended for a job well done. This plan represents an enormous amount of work and a great contribution to the knowledge and understanding of the Soquel Creek Watershed. The recommended projects will make great improvements to salmonid habitat, and help to restore a healthy fishery in Soquel Creek.

The following are my comments on the Plan and project list. Please note that while I have many suggestions for improvement to the Plan, I think your overall effort has been successful in meeting your original goals. I will provide my comments, basically, in sequential order by page number (found on the hard copy of the Plan). But first here are a few additional general comments about the Plan.

I hope it is clear to everyone who reads this Plan that this is the first effort to complete an assessment of the entire Soquel Creek watershed. While there have been several studies done within the watershed that address either a sub-basin or focus on a particular resource, this is the first project that has tried to bring it all together. It is a great effort, but also not the final word on the condition of the watershed. Some data, like water temperature, represent only a snapshot of the situation in one particular year. Also, other inventories like large woody material, riparian vegetation and water temperature do not include the upper reaches of the watershed and thus do not provide a complete picture of these resources. And even the fisheries population data, though they cover several years of inventory effort, they represent just the beginning of the kind of data needed to thoroughly understand what is going on within this watershed. These comments are not intended as criticisms, just a reality check, lest someone think that after this effort we have all of the answers and thoroughly know what needs to be done to "fix" the watershed.

I'm not suggesting, in any way, that this Plan indicates it is the "final word". However, it might be useful to add narrative to the Plan which clearly puts this assessment in perspective and indicates the planned monitoring efforts are designed to advance our understanding of the watershed, as well as to evaluate the response of the resources to the project treatments. We are also modifying the title, which helps indicate that more work is to be done.

There are two important more points that I would like to make up front for the record so that folks do not miss them. The first is, the big storm events of the El Nino winter of 1997-98 did not impact the Soquel Creek watershed as severely as they did watersheds to the north in San Mateo County or to the south in Monterey County. While the annual rainfall was above average and the flow rates were high and sustained, the storm events did not cause as much damage as the storms in the winters of 1994-95 and 1996-97. Riparian vegetation within the stream banks was lost in 1998, but the Soquel Creek watershed largely escaped the kind of storm damaged which occurred in other watersheds to the north and south where roads and bridges washed out in several locations and people's lives were disrupted for weeks or months.

- The second point that I would like to stress is that the "Highland Way Landslide," which occurred in January of 1997, had an enormous impact on fish habitat for at least two years. This slide came down after a very wet December and January and

deposited an estimated 30,000 to 50,000 cubic yards of material into Soquel Creek until the road was reopened in the fall of 1999. (Most of this material entered the creek during the first two winters.) The impact was particularly acute because after the slide came down, it virtually stopped raining for the season. The creek ran brown for several weeks and there were no more significant storms in 1997 to flush the sediment through the system. The creek bed in the East Branch was coated with sediment. We observed significant filling of most pools as a result of this slide and some pools have yet to recover. The pulse of sediment from this slide is still working its way through the watershed. I believe that the impact of this huge landslide should be described in more detail in the Plan for a complete documentation of the watershed condition and fluvial process. The Assessment does discuss this slide in particular, and acknowledges that large landslides are the greatest sources of sediment to the stream system.

In regards to particular references throughout the Plan, please use the correct names for the following: 1) California Department of Forestry and Fire Protection (and "Fire Protection" frequently omitted); 2) Soquel Demonstration State Forest ("State" is sometimes omitted); 3) Soquel-San Jose Road (formerly named Old San Jose Road); and 4) Douglas-fir (add hyphen and "f" is lower case).

Page i - First paragraph, second sentence: awkward, including "causes to" and "causes . . . causel." First paragraph, last sentence: should be "baseflows" not "backflow's." Fourth paragraph: spell out "cfs" for first use.

Page ii - Fourth paragraph, last sentence: I do not believe that "restricting road construction in erosion-prone areas" is a major reason for easements and/or acquisition in that most of these areas as they are fully roaded. (I do not believe there will be any more road construction.) I suggest instead "by improving road maintenance using best management practices." Improved road maintenance is addressed earlier in that paragraph. Easements or acquisition could have some value for reducing site disturbance by new construction or reactivating old roads. We recognize that any acquisition should be judicious and only pursued in appropriate circumstances where there is a willing seller and where there would be benefits for fishery enhancement. In the past acquisition has been suggested as a way to relieve the property owner of regulatory burdens and limitations.

Page 1 - First paragraph: "nearly 50 miles" is misleading. This figure must include the length all tributaries. As stated, it suggests it is 50 miles from headwaters to bay. At its greatest distance, it is about 24 miles. Please reword this sentence. Yes.

Page 6 - First paragraph: same as above.

Page 7 - Sixth paragraph: follow "U.S. Geological Survey" with "(USGS)." Add coma to 13,058 cfs.

Page 8 - First paragraph: define "underflow." Fifth paragraph: I believe "extirpated since 1992" is misleading. It is my understanding that there were virtually no coho in Soquel Creek after the drought of 1976-77, some 15 years before the last fish caught in 1992. The current language may suggest otherwise.



Page 10 - First paragraph: This paragraph is poorly worded and gives the wrong impression regarding land use in the upper watershed and the goals of the Soquel Demonstration State Forest. At a minimum, I suggest ending the first sentence with the quarry reference and "and limited agriculture including orchards and vineyards". Then adding two new sentences: "Many landowners have horses on their property. Also in this part of the watershed is the Soquel Demonstration State Forest, which is managed by the California Department of Forestry and Fire Protection for forestry education and research and watershed protection. This includes the demonstration of sustainable timber harvesting and public recreation." (This explanation of Soquel Forest goals is also included here to lay the foundation for a recommendation that I make later regarding including the Forest in planned education and monitoring efforts.) Next sentence: add "Periodic" to start of sentence, as in "Periodic logging." Last sentence: replace with "Several large acreages of relatively undeveloped private forest land, which are managed for timber production, comprise roughly 15 percent of the watershed."

Page 10 - The second paragraph is also unclear. I would argue that forestland managed for timber is also relatively "undeveloped". In the first sentence: The Forest of Nisene Marks State Park is administered by the California Department of Parks and Recreation (not CDF). Last sentence: I'm not sure if it is referring to public or private land. Also, what is "potential chaparral?" There is lots of "watershed land" that may not be fully represented in this description.

Page 11 - Second paragraph: typo-"from" not "form." Last paragraph: this reference to SDSF studies miserably understates our efforts to date and consequently does not include several of the references used by the contributors who wrote the technical reports. I suggest the following brief summary:

Soquel Demonstration State Forest studies include:

- East Branch Watershed Assessment - 1993
- History and Archaeological Assessment - 1992
- Biological Assessment - 1992
- Environmental Impact Report for the SDSF General Forest Management Plan - 1995
- Geological Assessments - 1991, 2001, 2003
- Water temperature monitoring- 1997 to present
- Steelhead monitoring- 1993 to present
- Aquatic Macro-invertebrates Monitoring- 1995 and 1997
- Foothill Yellow-legged Frogs Monitoring- 2001

Then add the existing description of the LWD study (or a condensed version). The studies included above are only those that we have completed that are especially pertinent to this Plan.

Page 12 - Regarding the Lagoon Management Plan, I recommend a careful review by regulatory agencies to ensure it adequately protects the fisheries. The practice of lagoon "flushing" when closing off the lagoon in the spring is highly questionable and may be significantly impacting hundreds of fish by washing them out to sea prematurely. I recommend that the practice of lagoon flushing be discontinued to reduce fish mortality. I realized that this topic is not specifically covered in this Plan, but it certainly is germane.

Other lagoon efforts are underway and may address this. It is not a simple answer. The flushing is also done to improve water quality and reduce presence of organic material which could deplete oxygen and kill fish.

In this section or somewhere else in the Plan I suggest you include a table that documents the restoration efforts that have occurred in the past. In this table you could describe the systematic and continuous effort to remove large woody material from the watershed for flood control purposes for the last 50 years (since at least 1955). Also include the blasting of Ashbury Falls in 1990 and of a stump in Amaya Creek in 1996. All of the landslide restoration and fish habitat work by Dave Hope and Matt Baldzikowski for the County of Santa Cruz could be included along with the work by Robert LaRosa in Moores Gulch. Include other work by the California Department of Fish and Game as well.

A separate effort is underway to inventory various restoration efforts in the County that have been completed.

Page 13 - Second paragraph: The description of this road assessment by PWA is based on their poorly worded draft report. I suggest referring to the final report or at least making the following changes: First line- "...for Santa Cruz County roads and roads in the Soquel..." Fourth line- Santa Cruz County maintained roads in the Soquel Creek Watershed." Fifth line- "3' x 1' " (add foot symbol or write out). Okay

Please note: I will refer to this road assessment in my discussion of the recommended project list. This Plan appears to under utilize this road assessment and products could be included that repair the highest priority sites identified along County roads. Agree

Page 14 - The Geomorphology/Hydrology Assessment does a good job of describing both the unstable nature of the upper watershed geology and the tremendously disruptive nature of past large storm events.

Page 15 - Second paragraph: Define "gaining and losing reaches" and/or "net surface water loss/gain".

Last sentence: which "confluences" are being referred to?

Fourth paragraph, first sentence: Was the channel stable between 1951 and 1960 (that is, were there any changes following the 1955 storm event)? (I could easily see aggradation occurring during the 1955 storm event.) There was aggradation following 1955, see Fig. G-11 in the Appendix.

Also define the terms "aggradation" and "degradation". I suggest that you move the footnote from page 21 to the first time these terms are used. Last paragraph, last sentence: typo- "system Retention".

Page 16 - The use of the reference to the "Highland Way" landslide should be clarified since there are dozens of landslides along Highland Way and this slide had a significant impact on the creek. I suggest that this landslide be described as the one that came down in January of 1997 and give the milepost location on Highland Way so that readers in 20 years will know which landslide is being discussed.

The Riparian Vegetation section reads more like a textbook with few references to Soquel Creek. I would like at least a brief mention of the dynamic nature of riparian vegetation and how alders and willows are washed out every two to five years and rapidly grow back.

This is important to understand the constantly changing nature of the streambed and banks as a consequence of high storm flows. This issue is discussed on pages 35-36 of the Riparian Vegetation Assessment (Appendix E) and pages 30-32 of the Geomorphology/Hydrology Assessment (Appendix D). Some acknowledgment might be useful in the Assessment, although it is not as easy to generalize.

Page 17 - Fifth paragraph: Typo-"OFTREES".

Page 18 - Second paragraph, Second sentence: delete "that" in "The lagoon that provides." Fourth paragraph, end of first sentence: add "in the watershed." Fifth paragraph, fifth line: not sure why thus is in parenthesis.

Page 19 - In reference to when the creek went dry in the lower watershed, it would be best to be as complete as possible when stating the specific years. I have seen references that include 1991 and have two Santa Cruz Sentinel articles that suggest that the creek went dry during the summers of 1989 through 1994. I do not know for sure which years this occurred. I am suggesting that we try our best to set the record straight here. We may or may not have completely accurate records of this, other than USGS gage flow records which do not necessarily reflect the worst drying that occurred downstream.

Page 21 - This section is a great summary of findings. It covers a lot of information very clearly. I have a few questions, however. In the first paragraph, what were the "events of the 1940s and 1950s"? Are they described in paragraph three? This could be clarified.  
High Flow Events

In paragraph three: Tom Spittler with the California Geologic Survey has completed an air photo analysis of the Amaya Basin and Fern Gulch areas. He found significant landsliding following the large storm events of the late 1930s and early 1940s. Is this consistent with your evaluation? This is when the real impacts from the earlier logging occurred. Should this be specifically mentioned in the third paragraph, i.e., the storms of 1939 (?) and 1941(?)? Spittler agrees with your assessment that the impacts from the 1940s and 1950s were most significant.

Sixth paragraph: What about the storm of 1982? Didn't it have an impact on exposed channel width? Text reads "...stations between 1955 – 2002" It may have had a short term, but did not change the overall trend.

Page 22 - Fourth paragraph, beginning of second sentence: typo, words are missing.

Fourth paragraph, last sentence: how about adding "and the level of infiltration". The primary factor affecting infiltration is rainfall, although timing and intensity have some bearing.

Fifth paragraph, second line: What are the "other factors" mentioned here? The other factors are those mentioned in the previous paragraph.

Page 23 - Fourth paragraph: I suggest you make a closer tie between the clearing of riparian vegetation and residential property. I feel you need to clearly identify the main location where tree cutting is occurring. This could be accomplished by ending the second to last sentence with: "associated with residential owners." The assessment looks at conditions, not impacts of specific land uses.

Last paragraph: This discussion is unclear and confusing. The locations in the first sentence are not clear, particularly "East Branch Mainstem". Should say "mainstem". Also, I find it hard to believe that there were no changes after the storms of 1955 and 1982. I believe it would be helpful to describe the occurrence of alder age classes (50 and 20 years, respectively) throughout the watershed that date back to these two major disturbances. The loss of riparian vegetation in the storms of 1955 and 1982 is indicated in the footnote on p. 23. Natural regrowth is discussed elsewhere.

Page 24 - First paragraph, the discussion of canopy closure does not include the Rift Zone of the upper East Branch. Unfortunately, this area was not covered in the assessment. Canopy cover in this area is lacking for a great distance (up to one mile) as a result of landslides. This is important to mention. We could indicate the condition as "reported", but we are reluctant to make changes in technical findings without confirmation by consultants.

Fourth paragraph, Second sentence: Is this sentence necessary? I am not sure what it adds and could leave the reader with the impression that invasive plants may not be that big a problem. This sentence contains useful information on comparative conditions. I believe the presence of broom, vinca and ivy in the stream channel should be mentioned. They have spread rapidly in recent years and their distribution is only going to get much worse. As this paragraph is the only narrative summary of the invasive exotic plant survey findings I believe it should mention the other primary species found besides Blackberry, Arundo and English Ivy. Yes

Page 25 - Fifth paragraph: the discussion of large woody material is misleading and incomplete. The inventory did not cover the upper reaches of the watershed and thus the findings only relate to the mid to lower watershed. Amaya Basin and the upper East Branch (areas not inventoried) have lots of wood and have always been sources for huge quantities of wood recruitment. This should be clarified. Pages 38 and 39 indicate that Amaya Creek has relatively large amounts of wood, but that the East Branch does not. It may be because the upper part of the East branch was not surveyed?

Also, I think it is very important that the Plan describe the extensive efforts that went into clearing wood from the creek both before and after storms since 1955. As recently as 1997 crews were burning large amounts of woody debris from the mainstem. The impact of this clearing in the name of flood control may represent one of the most significant impacts to fish habitat in Soquel Creek. The Plan could briefly summarize the inherent conflict between flood control and fish habitat needs and describe the important role that large woody material plays in the ecosystem from the headwaters to the ocean. This discussion could include the need to size culverts and bridges large enough to pass woody material. This explanation would support several of the recommended projects. This issue is acknowledged and addressed several places in the Assessment document. More work in the future is needed to better resolve these conflicts. More emphasis should probably be given to this issue on a watershed wide basis.

Page 29 - Figure 2: For the record, the location of Ashbury Falls is misidentified on the map. The "falls" or what is left of it is located above Ashbury Gulch at Alley's East Branch bedrock shelf #7. It is harder to identify the falls in the field after it washed out during the high flows of 1995 and 1997. Comment noted

Page 30 - I have comments regarding three categories in the table of watershed-wide findings and limiting factors. In "Pool Habitat," I am OK with the mention of the El Nino winter of 1997-98 with the previously noted proviso that storm damage that winter was not exceptional. I would modify the language in "Large Woody Material" by deleting the words "throughout the watershed" for the reasons described above. This generalization probably does apply to most of the main fish bearing streams of the watershed.

Page 31 - "Non-Native Presence": Please clarify the use of "urbanized areas." From my observations, invasive are most present wherever there is residential development, not just in town. Also, I'm wondering about adding to the last sentence "in the riparian corridor." Pampas Grass is much more widespread out side of the riparian area and readers may get the incorrect impression without these words of clarification. Agree.

Pages 32-39 - I take issue with the comments in each of these tables regarding pool habitat, large woody material and non-native species for the reasons described above. There is my issue with reference to the El Nino year in RU6 and RU5. I believe continued reference to it overstates its impact. Information regarding pool conditions and recovery is based on field observations and measurements of the fisheries biologist.

With regard to LWD, why is recruitment limit in RU5? In RU2 and RU1 it states "Scarce in East Branch." This is not true. It only applies to the lower East Branch. With regard to non-native plants, I take issue with their characterization as "low" in RU 5, 4 3, 2 and 1. Broom is everywhere. Vinca and ivy are increasing. This will need to be considered by the consultants.

Page 40 - This section could benefit from an introductory paragraph explaining what this section is about. What are "data gaps"? Data gaps are areas where more information is needed.

Additional areas that could benefit from further study and monitoring are information on the fish population from year to year and invasive species. A systematic and statistically valid sampling method for fish is needed to estimate watershed wide populations. More information on fish growth rates and use of the watershed over the course of the year is needed. This effort to inventory invasive species was a good start and highlighted the need to monitoring their presence over time. Ongoing fish monitoring is recommended on page 45. Appropriate methodologies and possible funding are still being assessed.

Page 41 - For the Lagoon area, was there any consideration of providing for more storms flows under the Stockton Avenue Bridge? With the raising of the Soquel Drive Bridge, the Stockton Avenue Bridge is now the bottleneck for large woody debris during large storm events. Lagoon issues are generally not addressed in the watershed assessment, but are deferred to the lagoon enhancement plan. The issue of Stockton Ave. bridge is one that could be addressed in a future management effort to look at flood management and large woody debris. Also, I will repeat my concerns regarding the flushing of the lagoon prior to closing the summer sandbar. This issue should be thoroughly reevaluated.

Page 42 - In the East Branch section, two opportunities for enhancement concern reducing sediment through the use of BMPs and drainage practices on unpaved roads. These two items should be included in each of the reaches listed with the exception of the lagoon. There are unpaved road throughout the watershed including the mainstem, Moores Gulch, Bates Creek and all parts of the East and West branch. Not recognizing

this would represent a significant oversight. This is a good point and it might make sense to move it to the Watershed wide recommendations.

Page 43 - Same comment as on page ii regarding road construction versus maintenance. I take issue with Table 4. Aren't you really planning to conduct each of these actions in all of the resource units? If not, you should be. These different actions have different priorities in the different reaches. Table 4 was designed to indicate that. Most recommendations will be implemented in most reaches to a greater or lesser extent, depending on priorities.

Page 44 - The outreach and education strategies are terrific. And of course, the primary mission of the Soquel Demonstration State Forest is to encourage good forestland stewardship and to foster watershed protection and restoration. With this resource within the Soquel watershed it makes sense to make the Forest an integral part of the education and outreach plan. Hence, I suggest that you specifically mention "in cooperation with the Soquel Demonstration State Forest" for the road outreach program under Education Topics and the Workshops and Tours under Outreach Strategies. For the School Creek Adoption, do we have a local example? Regarding water conservation kits, I suggest you mention the Soquel Creek Water District kits instead of the Santa Clara Valley kit example.

Page 45 - Include "with Soquel Demonstration State Forest" for "Coordinate education and outreach programs" under Stewardship Development. In regards to the "Monitoring Program," I agree that monitoring is critical. Of course, close coordination between all agencies and groups collecting data is very important. With so many groups involved, maybe the RCD can serve as a clearinghouse for information to avoid duplication or groups collecting data using different methodologies or units of measurement. This could include meeting with the major parties involved such as the County, RCD, CDF, City of Capitola and the National Marine Fisheries Service (NMFS). The RCD values the resource of the SDSF, and your willingness to coordinate with various efforts. We envision that education and outreach will be done with many entities, including the SDSF.

Under item (1), I believe it should be Table 1, not 8. (Same on page 58.)

Under item (3), a decision will need to be made regarding whether to continue the current sampling scheme or to revamp it per NMFS recommendations. This decision will also depend on available funding. We hope to have further meetings with the interested agencies will resolve this issue in the next 6-9 months.

Page 46 -

In regard to the project list in general, one topic that I did not see in the Plan was feral pigs. I believe this to be an important issue because of the extensive soil disturbance they cause, especially in the winter. I suggest that an assessment of the impact of feral pigs be included as a recommended project with mitigation measures identified. Feral pigs have been considered in other assessments, but have not been given a particularly high priority (Zayante Creek Sediment Study and City of Santa Cruz Watershed Lands Plan. Their activities probably contribute more to briefly elevated turbidity than significant sediment production.

Are the projects listed in order from upstream to downstream? This would help and a statement to this affect would clarify things. They are organized by reach. See the matrix.

Project #1: Conservation Easements/Land Acquisition: I hope that people fully understand the state regulations regarding commercial timber harvesting along Soquel Creek and its fish-bearing tributaries. The regulations require that following timber harvesting there must be at least an 85% canopy cover for the first 75 feet from the high water level and 65% canopy cover from 75 feet to 150 feet. The consequence of these regulations is that very little timber is harvested next to the creek these days. Thus purchasing easements or land to protect riparian canopy cover may not be a high priority where the property is managed for timber production. Where this is not the case, especially in residential areas, riparian easements would be of significantly higher priority. Comment acknowledged.

Project #2 - This project addresses a perched culvert. I believe this was identified in the road assessment completed by Pacific Watershed Associates. What about the other priority projects that they identified for County roads? Where they not considered because of other funding sources? Fixing these priority projects could prevent a tremendous amount of sediment from entering Soquel Creek. The other priority road projects will be brought in. The PWA work was not completed when the assessment was being prepared.

Project #3 - In regards to fish passage improvement projects in general, I would like to see a set of guiding principles for this kind of work included in the Plan. Are we focusing on impediments versus barriers? How about human-made barriers or impediments versus natural barriers or impediments? How important is aesthetics in the design of projects? What kind of project review will occur for each projects? When I think of the upper falls at the Girl Scout Camp, I concerned that this is a natural feature that has been there forever and is a defining feature of the Camp. Will this be treated the same as a bedrock shoot in the middle of nowhere? When key geologic features that are grade controls in the stream are removed, will thorough geologic and hydrologic assessment be completed? Will there be an attempt to minimally modify a feature to promote fish passage versus an all out attempt to blast the impediment away? In other words, a light touch approach versus a heavy hand? I encourage the project designers to go through a thorough peer review and for the folks involved to document each action, monitor over time and document how to do it better the next time. Regarding the Ashbury Falls project, as I have noted, the Falls themselves are the feature know as bedrock shelf #7, which is above Ashbury Gulch. I believe you will confuse things if you try to redefine this feature. I suggest you refer to it as the Ashbury Falls complex if you want to group all of the features together. The issues raised are important and will need to be addressed as specific projects are developed.

Two additional items come to mind when I consider the RU1 reach. First, there are several projects, which assess an area for possible sediment reduction e.g., #7, #17 and #19. Yet the Rift Zone (the upper East Branch) was not considered for such a project. This appears to be an oversight if you plan to do these kinds of assessments. I suspect that a good Certified Engineering Geologist would put these projects lower in the priority list. Project # 58, includes a watershed wide assessment of sediment sources form non-county roads, which along with other roads are probably the most significant chronic sources of sediment.

The second item has to do with the "Highland Way Slide" of January 1997. When this landslide occurred, massive amounts of sediment entered the creek for months and resumed again the following winter. There was no attempt to mitigate or control the erosion. With quick action, thousands of cubic yards of material could have been kept out of Soquel Creek. However, no agency or group would take responsibility for the problem despite repeated efforts. This represents a failure of the system and I am

wondering if something could be done to address this situation in the future. I am suggesting some creative problem solving to come up with a process to deal with major future landslides or other events so that this kind of inaction doesn't happen again. The geomorphologist has indicated that the feasibility of controlling landslides and similar sediment sources in the rift zone is limited due to technical and economic concerns.

This concludes my comments on the Plan. Thank you for the opportunity to provide my input. I hope that the RCD will take us up on our offer to continue to work as partners in watershed education and enhancement.

Thank you for your comments.



## Peter Twilight

Karen Christensen and Bobbie Haver  
> S C County Resource Conservation District

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> Some questions I think the Technical Consultants should address:

>

1. On page 6 it says higher mean flow volumes decrease the time period required for smolting. Why should fish growth be tied to water volume? Is there some other cause that is correlated to water volume that is directly  
> related to fish growth? Increased flow provides more available habitat and more food due to increased insect drift.

2. Some information on the East Branch that would be useful to any  
> analysis of both branches: The east branch is about 11,400 acres.  
> According to the Gerin and Staus maps of vegetation it is about 45.5% mixed evergreen forest, 27.5% redwood forest and 23% knobcone pine and chaparral. This is interesting because of the fire hazard in the pin/chaparral type and there at to the watershed, and the redwood type uses water like riparian  
> trees. The biomass of the forest has probably doubled over the last 50  
> years, mostly redwood

3. If the biomass doubled in the last 50 years, the question of  
> declining base flows would be answered. This is happening in Waddell Creek (documented by Briggs), and doubtless in other streams. It would be unlikely that stream flow in Soquel Creek would be exempt from this effect of forest re-growth. SDSF may have data on their forest re-growth. I estimate that our forest growth is probably in balance at about double the amount of 1950. Since all the small developed parcels will not be logging, and since SDSF plans major biomass accumulation before initiating their sustained yield program, base flows in Soquel Creek will certainly continue to decline. If base flow is truly controlling of fish growth, it does not bode well for increasing the numbers of fish, or different strategies will be required to compensate for the declining base flow. . This is an important point that should be noted as one of the potential contributing factors to long term declines in baseflow, along with many others, some of which we may have some control over.

This should be addressed in this watershed assessment.

>

> Peter Twilight

# Barbara Graves

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May 14, 2003

SCCRCD

attn: Karen Christensen and Bobbie Haves  
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RE: Comments on the Soquel Creek Watershed Assessment and Enhancement Plan

Dear Karen and Bobbie,

As preface: I think you know by now how deeply I care about Soquel Creek, so the disappointment I'm about to express candidly will not hinder my future commitment to a team effort to protect and improve our watershed. I'm leaving town and won't be back before your next meeting, so I want to submit a few comments about your assessment plan even though I realize I have received a "draft" after the document has already been filed with and accepted as complete by the Department of Fish and Game. My comments will focus on "non-enforcement" issues as you requested (although I believe that this approach is short sighted), and my comments are necessarily superficial (graphics, maps, and consultant reports for the assessment plan are not available to me yet).

The first problem is that the selected goals of your assessment plan have led you to recommend in all reaches of the watershed those actions that the RCD likes to do and feels it can fairly easily get funding for. This is not necessarily a bad thing. (Conservation easements, improving fish passage, and planting vegetation are all needed, after all.) However, the priorities of other groups should also have been incorporated.

Let me focus for a moment on the priorities expressed to me by Capitola Council Members and staff, Directors of the Soquel Creek Water District, and the Water Resources Committee of the Sierra Club -- priorities which have not been adequately addressed in the assessment plan:

- Capitola's Village Committee is beginning a design for a DEMONSTRATION URBAN HABITAT PARK on East Bank at Stockton Bridge: How native plants can create habitat for fish, birds, butterflies, and humans. During my recent involvement with a small revegetation project funded by Fish and Game in Capitola, I was reminded that urban areas are more difficult and more important to get planted (in terms of young-of-the-year fish habitat). People simply cannot picture how rich native habitat -- no roses, no grass -- can be comfortable for humans in an urban setting. We have to show them. If this project is not in the RCD's assessment plan, it's unlikely that it will receive the extra "cooperative project" points needed to procure funding, and Capitola's budget is too small to make it happen alone.

The District strongly supports the Draft Soquel Creek Lagoon Enhancement Plan that the City of Capitola has been developing. This project should be included in that Plan. The Soquel Creek Watershed Assessment that the RCD has developed was not intended to address the lagoon. The Coastal Conservancy and the Department of Fish and Game did not want to fund two Assessment and Enhancement Plans that overlapped. Therefore, it was very important to draw a boundary between the two planning efforts. The two efforts are complimentary and both are critical to the overall success for Soquel Creek.

- REVEGETATION MUST BALANCE HABITATS for birds, butterflies, and other wildlife as well as fish. The assessment plan generally emphasizes non-native removal in revegetation projects, which makes less sense in the lower reaches where significant butterfly habitat (insects that love ivy and eucalyptus,

for example) must be balanced with the needs of fish. Also, because water temperatures are too high, trees should not be removed until new plantings approach similar height for shading. The District wholeheartedly agrees with this recommendation. The re-vegetation recommendations identified in the Soquel Watershed Assessment were intended to achieve the goals you identified. However, they did not address any of the re-vegetation needs in the lagoon study area.

- Capitola desperately needs partnering for funding for about a dozen STORM-WATER INTERCEPTORS, filters, and grease traps in areas where known pollutants are dumping directly into the Soquel Creek.

The District is committed to supporting the City of Capitola to the extent feasible. We dedicated staff time to develop, write and submit the Soquel Creek Lagoon Cooperative Water Quality Implementation Program Prop 13 Proposal recently awarded to the City of Capitola. We look forward to collaborating on its implementation. The Assessment includes recommendations for effective stormwater management measures (Project 50).

- A SEPTIC TANK STEWARDSHIP PROGRAM would be best if accompanied by a county ordinance for mandatory 5-year maintenance, but a lot could be accomplished by a voluntary demonstration program that would partially subsidize technological upgrades and repairs made available for education to similar property owners along the creek.

The County of Santa Cruz has an active Septic inspection and monitoring program in the San Lorenzo Watershed. The County monitors for bacteria in the Soquel watershed and will conduct investigations for failing septic systems where high bacteria levels are found. The good news is that contamination from septic systems is not nearly as significant an issue in Soquel as in San Lorenzo. It does still deserve attention and we are happy to include the Septic Stewardship Program in the Outreach and Education recommendation in the Assessment.

- A TRAINED HAWK PROGRAM has been successful near Santa Barbara in persuading sea gulls, mergansers, and pigeons to make homes away from creek mouths. In this way, fewer young fish get eaten and fewer young children get sick from high fecal counts. Capitola's mayor has called for investigation of creative solutions such as this one, but the problem much less its solution is barely identified in the assessment plan.

The District understands that this program has been successful and that the City of Capitola and the County of Santa Cruz are discussing the potential for a complimentary program for Capitola. This project should be identified in the Lagoon Enhancement Plan.

- We will not know the eventual success or failure of any of these programs if we don't support actual fish counts.

Continuation of fish counts is recommended on pages 45 and 60 (monitoring and Project # 70).

- The assessment plan touches on unauthorized water diversions, which is good. However, the hammer stops short of the nail. People with greater credentials than mine agree that the most persistent threat facing fish is the serious drawing-down of creek base flow by water districts and private wells that are over-pumping. You don't have to "go regulatory" to address this problem. The Sierra Club is in the process of proposing a GREY WATER DEMONSTRATION PROGRAM that will identify 3-4 experimental technologies on a variety of properties from apartment buildings to rural ponding. This and other creative approaches to reversing the decrease in creek base flow by identifying recharge and recycling possibilities are important. Capitola's suggestion of a Special District with water mastering would also help solve this real problem.

The District has included coordination with this program in the Outreach and Education recommendations and look forward to its implementation.

- A SPECIAL DISTRICT with funding mechanism and paid staff, including a water master and grant writer/coordinator, should take highest priority. Don't fall prey to a "crimp" model that will fail here. I agree wholeheartedly with the Capitola City Manager who sees that tiny Capitola bears too much responsibility for watershed health, especially with the imminent establishment of TMDL's and stormwater pollution programs. The only watershed group that is still needed is a vehicle for this partnership. These elements are included in the recommendations for Stewardship Development on page 45.

On a related point: Your description of the Soquel Creek Task Force which I organized at the request of Capitola Council members (p.14) quotes out of context and omits the critical purpose and true scope of that effort. In recognition that Capitola currently suffers as the literal toilet of the watershed, the Task Force was assembled to uncover real solutions to watershed-wide problems. For a total budget of \$25, I believe that the Task Force did a better job than the expensive assessment plan I've just reviewed. Here's one important recommendation of the Task Force that has not been met by the RCD process or plan:

***"A Watershed Task Force.*** Implementation of solutions requires a watershed approach. To organize this broader group, a combined effort is needed by the City of Capitola, volunteer groups (such as the Friends of Soquel Creek, the Coastal Watershed Council, and Save Our Shores), and other government agencies (such as the Santa Cruz County Water Resources Department and the Resource Conservation District)." This recommendation as identified by the Task Force is an important element for Soquel Creek. There is a need to improve and expand on coordinated efforts. The City of Capitola, Friends of Soquel Creek, the Coastal Watershed Council, County of Santa Cruz Water Resources, Santa Cruz County Environmental Health, Santa Cruz County Planning, resource agencies, Soquel Creek Water District and others have participated in the Soquel Creek Assessment and Enhancement Process. The SCCRCD supports your input regarding the need for a teamwork approach with leadership from multiple entities.

Lastly, to allow for any real teamwork in future watershed work, I must be blunt about the feedback I've received and my personal opinion concerning the process of creek work since the RCD (and its partnership with Marty Gingras of Fish and Game) assumed leadership with the assessment plan. You receive no points for playing well with other children. With the Task Force there was deep recognition that all volunteer groups must be solicited and encouraged to participate, since they are the workhorses of the watershed long after funding disappears. There was also skepticism among Task Force members about the existing RCD's ability to meet this challenge. As I and most other volunteers have been so completely excluded from the assessment plan process once the RCD took control, unable to receive the simplest public noticing without much stamping of feet, I must sadly agree that I could not support a future watershed group (p.53 (55)) unless its leadership is composed of representatives from all the organizations that were working effectively in the Soquel Creek watershed for free before the RCD brought its money (such as the Friends of Soquel Creek, WAVE, the Coastal Watershed Council, Save Our Shores, the Sierra Club and others that have made this watershed their priorities). The suggestion was made (not by me) that a new watershed group should be formed outside the control of the RCD so that there would be no "\$500 cookies" and no reports that focus funding on expensive projects that don't offend anyone but also don't fix problems.

If the RCD is to work effectively in this watershed, correcting this negative prediction is essential. Fences should be mended.

We recognize that many community groups, non-profits and agencies are interested in and actively participating in the watershed. We applaud those efforts and look forward to working together. The RCD would like to work on improving the lines of communication and like you, work towards a positive working relationship where everyone can participate and support the collective vision for a healthy watershed. Thank you for your honest input.

In the name of helping to mend those fences and in the sincere hope that one day a fish with lips will indeed kiss me, I offer to help in ways that I can. I consider the air cleared at the close of this letter.

Sincerely,

Barbara B. Graves

## Soquel Organizational and Meetings table

Date	Type	Topic
Wednesday, September 19, 2001	Watershed-wide stakeholder meeting/open house	Introduction of Assessment effort. Notices were sent to over 3,000 addresses, press releases and news media
October 30, 2001	First PAG meeting	PAG set-up, ground rules, role and authority of PAG
November 30, 2001	Email memo to TAC	Agenda meeting on Dec. 5 '01
December 5, 2001	First TAC meeting handouts	Organization discussed, 3 handouts; Scope of Work, Assessment Mile Stones, Executive Summary documents.
May 2, 2002	Memo sent to TAC via email,	2 <sup>nd</sup> TAC meeting May 8, –Presentations by Hydrology and Riparian consultants
June 17, 2002	Memo sent to TAC via email,	3 <sup>rd</sup> TAC June 26, 2002, Fishery presentation
August 19, 2002	Letter to PAG from RCD	Progress Update; Staff changes upcoming PAG meeting to discuss education, outreach, and long-term stewardship.
September 25, 2002	PAG meeting with handouts	Provide update on the Assessment and handouts; Enhancement Plan timeline and schedule. Announce upcoming workshops.  Also brainstorm ideas for education, outreach, and long-term stewardship recommendations.
September 30, 2002	PAG e-mail	Soquel PAG Recommendations
October 4, 2002	Press Release, e-mail and mailing	Soquel Creek Walk and Talk Tour Soquel State Demonstration Forest
October 10, 2002	PAG e-mail	Re: important juncture in the process; return questionnaire, submit additional recommendations, reminder for next PAG meeting Oct. 23 <sup>rd</sup> . refining and prioritizing all of the education, outreach, and stewardship recommendations for inclusion in the Plan.
October 19, 2002	Public tour	Soquel Creek Talk n' Walk at Soquel State Demonstration Forest
October 21, 2002	PAG e-mail	Re: meeting reminder next Soquel PAG meeting Wednesday October 23 <sup>rd</sup>
October 23, 2002	TAC & PAG 3-mails re: meetings	The ultimate goal of the Assessment Plan is to provide a comprehensive and prioritized list of enhancement projects for implementation.
November 15, 2002	TAC & PAG e-mail	Revised Completion Schedule

<b>Date</b>	<b>Type</b>	<b>Topic</b>
December 20, 2002	TAC & PAG e-mails & post	Draft Assessment Reports (3), fisheries, hydrology, riparian, announce TAC and PAG meetings January 15th
January 9, 2003	Letter to TAC member	Review and comment on drafts by 15 <sup>th</sup> of January
January 15, 2003	TAC & PAG meetings	Discuss draft assessments
January 29, 2003	Letter to Friends of Soquel from RCD	Response to concerns expressed by Friends of Soquel
January 30, 2003	Email to TAC	Reminder of last consultant synthesis meeting and schedule for completion
February 26, 2003	Press Release:, e-mail and mailing	Soquel Creek Rockin' & Rollin' Workshop
March 1, 2003	Upper Watershed Residents meeting	Over view of the Assessment process and opportunity to hear from them on Creek History and resource concerns. Flyers send out to upper watershed residents
March 12, 2003	Workshop	Road Drainage, Property Protection
March 17, 2003	Questionnaire	Workshops feedback
March 21, 2003	Letter to Workshop Attendees	Cover letter sent with Questionnaire
April 9, 2003	e-mail from CWC	Soquel Watershed Volunteers Needed for Water Monitoring programs
April 21, 2003	Letter to PAG, TAC and interested parties from RCD	Brief Progress report on the status of the Soquel Creek Assessment and Enhancement plan.
April 25, 2003	Administrative Draft	Technical writer delivered draft report to RCD office
May 2, 2003	Administrative Draft	Sent to TAC PAG and interested members of public
May 28, 2003	Press Release and flyers	Press release announcing the June 4, 2003 meeting was sent to PAG, TAC, Public mailing list, Mid-County Post, Lost Gatos Times, Mt. Network News, Connection, Metro Santa Cruz, Sentinel, Cable TV, Scotts Valley Banner, Mid County Post, Los Gatos Times
June 4, 2003	Public Meeting	Draft Assessment Enhancement Plan presented with consultants and funders present.
June 17, 2003	E-mail and post to PAG, TAC and interested Public	Letter outlining next steps for completing the Soquel Creek Assessment and Enhancement Plan project.
July 16, 2003	Soquel Creek Assessment and Enhancement Plan Final Draft	Copies printed courtesy of Tom Mader, were distributed to PAG, TAC and interested community members. Was posted on the sccrcd.org website.
July 23, 2003	Press Release	Announcement for Draft Soquel Creek Watershed Assessment and Enhancement Plan Public Review